THE FUNDAMENTALS OF ACCOUNTING

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THE FUNDAMENTALS OF ACCOUNTING

A Cost and Revenue Approach

By

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THE MACMILLAN COMPANY : *NEW YORK*

1947

PRINTED IN THE UNITED STATES OF AMERICA

Reprinted August, 1947.

PREFACE

The development of the fundamentals of accounting as presented in this volume follows the philosophy of the Executive Committee of the American Accounting Assoication.[1] It is an approach that has been used at the University of Washington for the last five years. The subject is developed from defined concepts of costs and revenues. The word "revenues" applies to goods and services exchanged; the word "costs" applies to goods and services used up or parted with in producing revenue. From these concepts the profit and loss statement and the balance sheet are developed. This means that the fundamentals of accounting are not developed from the balance sheet and the balance sheet equation as is usually the case. Although the writer agrees with those who believe that the balance sheet equation has not been conducive to the development of accounting theory, he does not agree with those who would abandon it entirely. It has its place in the teaching of the bookkeeping aspects of our subject. However, under the cost and revenue approach, the equation and double entry bookkeeping become incidental to the fundamentals of accounting. The fundamentals would still exist if the equation had never been known.

In addition, the cost and revenue approach, by placing the emphasis upon costs and revenues instead of upon the balance sheet and statement of profit and loss, enables us to get away from the idea, given the student unintentionally, that the balance sheet and statement of profit and loss are the final products of accounting. In this volume the fact is emphasized that management, in particular, needs many different types of information of which the basic statements supply a very limited amount.

More important, the cost and revenue approach provides a sound underlying theory to which the basic fundamentals of accounting can be connected; and this underlying theory is emphasized throughout this volume. The accountant who has acquired a knowledge of accounting practices, backed with little theory, does not have very much. On the other hand, if he has a sound underlying theory he has a means of approach or attack with which to meet new situations as they arise. When practice

[1] See The Executive Committee of the American Accounting Association, "A Tentative Statement of Accounting Principles Underlying Corporate Financial Statements," The Accounting Review, June, 1936. Also, W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, American Accounting Association, 1940.

varies from theory the reasons will be evident. Instead of weakening practice, theory strengthens it.

From the teaching viewpoint the cost and revenue approach has proved to be most effective. The teaching time of many topics has been greatly reduced. An example of this is the teaching of the fundamentals underlying adjusting entries. Although these entries are covered early in the volume, in Chapter VI, the student is ready for them at that time, for they fit naturally into the development of the subject. The student sees the need of them, and before Chapter VI is reached has started making inquiries about them. Consequently he grasps the fundamentals of these entries very quickly.

Another advantage of the cost and revenue approach is the flexibility it makes possible in teaching the subject. So many of the chapters after Chapter VIII are based upon the fundamentals covered in the first part of the book that many of these later chapters may be omitted without affecting the continuity of the material. This is an advantage because few accounting teachers present the subject in exactly the same way. Some emphasize accounting theory, some emphasize the managerial aspects of accounting, and some emphasize the bookkeeping aspects. The material in this volume and the practice sets are so presented that the instructor may place the emphasis where he desires. Instructors in universities and colleges where the classes are large and over 80 per cent of whose students take only one year of accounting will ordinarily emphasize either fundamental accounting theory or the managerial aspects of accounting; this they can do with this textbook. Those who teach students who are primarily interested in the bookkeeping aspects will find that the four practice sets provide plenty of bookkeeping practice, including the recording of the sales tax, social security taxes, payrolls, and workmen's compensation taxes. All the practice sets after the first include material for bank reconciliations.

The first eight chapters provide background material. In these chapters the objectives of accounting are explained and the background in theory is provided for the bookkeeping methods and procedures which follow in Chapters IX to XIII. A word of explanation may be desirable here as to why special journals are discussed before the general journal. This has been done for two reasons: first, it is much easier to demonstrate the value of books of original entry, and second, the method dispenses with the more or less wasteful practice of having the student put everything in the journal and then having him remove most of his entries from that book. For courses in which little emphasis is placed upon bookkeeping procedures, any of these five chapters may be omitted.

Chapters XV to XX cover other special topics. In these chapters con-

siderable space is devoted to special problems that arise in matching costs with revenues. Any of these chapters may be omitted without disturbing the sequence of the course. Chapters XXI and XXII on Cash and the Voucher Register cover more advanced bookkeeping procedures. Chapters XVII, XXIII, and XXVII are included in order to illustrate how such concepts as fixed and variable costs, out-of-pocket costs, etc., can be used in different types of enterprises. The chapters on partnerships are much the same as those in any other textbook. The chapters on corporations emphasize paid-in capital and the sources of surplus.

Four relatively short practice sets are included. They are devised to provide the student with the usual practice in recording, and, if the time permits, practice in analyzing the material provided by the records and the statements. To analyze properly some of the situations that arise, the student must make simple applications of such cost concepts as fixed and variable costs and out-of-pocket cost. Practice set 1 provides a simple set of records for a one-product business, which later adds products. Practice set 2 introduces problems of departmental accounting. Practice set 3 is a noncost manufacturing set. Practice set 4 is a simple job lot cost set. Practice sets 2, 3, and 4 all include bank reconciliations and social security taxes. Practice set 2 includes the sales tax and practice sets 3 and 4 workmen's compensation taxes. These sets provide as little or as much practice set material as anyone will desire. In some unusual instances the practice set material might be restricted to part 1 of practice set 1. In other instances the material might be so selected that time might be available to do all four sets. Regardless of how many practice sets are omitted, the continuity of the subject is not affected. The practice sets are discussed in more detail in the teachers' manual.

To the Executive Committee of the American Accounting Association and particularly to Professors W. A. Paton and A. C. Littleton the author is greatly indebted. It is impossible for the writer to credit the many writers of articles in the accounting journals who have influenced his thought in some way. He is certain that he is indebted to Professors J. B. Canning, Henry Rand Hatfield, Roy B. Kester, to Stephen Gilman, and Geo. O. May. To Professor Willard J. Graham of the University of Chicago, he is indebted for many helpful suggestions. Others to whom he is indebted are the late J. O. McKinsey and Professor Homer E. Gregory, who have specialized in the managerial aspects of accounting. He is also indebted to Mr. Evald Petersen, formerly of the accounting staff of the University of Washington, for the careful reading of many parts of the manuscript, and to Donald Emery of the English Department of the University of Washington for his help with the manuscript. Professor James M. McConahey, in charge of accounting courses at the University of Wash-

ington and for many years a member of the Committee on Education of the American Institute of Accountants, has contributed so much to this volume that the author hardly knows how to express his appreciation. Professor McConahey has read each chapter several times and has made so many suggestions that he has made a substantial contribution to whatever merit the book may have. In addition, he has continuously encouraged and stimulated the author to put the manuscript in form for publication despite difficulties that the author has at times encountered. Any defects in the volume are the responsibility of the author alone.

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CHAPTER I. THE NATURE OF ACCOUNTING

Accounting. Accounting deals with certain information pertaining to what we may call service-providing units or productive units of a society. These productive units are individuals or groups of individuals who produce goods and render services for society. Specifically, accounting deals with:

the collection,
the recording,
the verification,
the presentation, and
the analysis,

of information concerning the revenues, costs, profits, losses, and financial condition of productive units of society.

The Business Enterprise. Governments and the business enterprise are the productive units that provide most of the goods and services necessary to satisfy the needs and desires of the people. Governments provide defense, fire protection, education, and other services, the costs of which are covered by revenues collected in the form of taxes. Although governments are becoming more important as a factor in rendering services, the bulk of the goods and services used by the people of a democracy is still provided by the business enterprise.

To provide goods and services economically, some productive unit such as the business enterprise is necessary under all types of political organization. The efforts of groups of people must be combined if reasonable efficiency is to be achieved. If each individual worked alone to provide everything he needed, the productivity of a nation would be very low. This is true for many reasons, one of the most important of which is the fact that individuals have different abilities and are capable of developing different skills. When their efforts are combined, people have the opportunity to specialize and develop their particular skills. In this way they become much more productive than when working alone.

In a society based upon private enterprise the people are permitted to seek opportunities to combine their efforts to produce goods and services. They may voluntarily engage in any legal activity. They are permitted as individuals to invest money and to employ others to work for them. They

have the right to form partnerships and corporations. The individual enterprise, the partnership, and the corporation are all business enterprises or business organizations. They serve the social function of bringing people together so that their efforts may be combined and directed toward common objectives.

In a society like that of Russia the same problem exists: the efforts of individuals must be combined. But in Russia the people have no right, or only a limited right, to form voluntary organizations for productive purposes. The state determines what is to be produced and for this purpose has organized large trusts. Those responsible for the direction of a trust, such as the sugar trust, determine how the efforts of the people are to be combined. The same is true in Germany, where workers are assigned to certain plants which they have no right to leave. In all modern society some such grouping of individuals must be made either by voluntary action or by compulsion.

It is with these productive groups that accounting is concerned. In a society based upon private enterprise the productive unit for accounting purposes is determined by ownership. If a timber operation and a sawmill are under the same ownership, the accounting unit would include both projects. On the other hand, if the ownership of the timber operation is different from that of the sawmill, the accounting for each would be entirely separate. We account for the results of the individual enterprise, the partnership, and the corporation. However, this does not prevent our accounting for the revenues, costs, and data on the financial condition of the subdivisions of the business enterprise. For a large corporation, the accounting will cover individual plants, products, territories, and even other units. In Russia, where enterprises are owned and conducted by the state, the productive units for accounting purposes are the trust and its constituent units. Within the trust the functions of accounting are much the same as in a society based upon private enterprise.

The purpose of accounting in a society based upon private enterprise is to provide the owners, the managers, the creditors, labor, and the government with information about the revenues, costs, profits, and financial condition of the business enterprise. In both the capitalistic state and in those states under other forms of political organization the purpose of accounting is to provide information that may be used to measure and increase the efficiency of the productive units. These functions will be discussed more fully later in this chapter.

Measurement. The accountant presents information in terms of the monetary unit, which in the United States is the dollar. This is done not only because business transactions are made on this basis but because no better method is available. Other methods have been suggested. Some

people believe that accounting data should be presented in terms of the purchasing power of dollars rather than in legal dollars. Accountants do not favor a change from the legal dollar to any other method of measurement because these other methods are not free from deficiencies. People measure income in terms of legal dollars, and much educational work would be required before they could understand another method. Another difficulty results from the fact that the same number of dollars may mean different purchasing power to different people, because purchasing power is an individual matter.[1] The Bureau of Labor Statistics encountered this difficulty in attempting to measure costs of living. The Bureau found it necessary to study the actual budgets of families to obtain the desired information. Evidence of the difficulties involved is the fact that those economists who favor a different method of measurement have been unable to convince many of their own colleagues that a new dollar would be superior to the present one.[2]

At some future time accounting information may be presented in terms of purchasing power dollars, or some other unit. However, this is a possibility rather than a probability, and even now anyone who so desires is at liberty to present the data in terms of dollars other than our legal dollar. One of the major functions of accounting, if not its major function, is to aid management in coordinating the efforts of the members of the organization, for which purpose some other unit of measurement might prove far inferior to the present dollar. Considerable research and experiment would be necessary before we could assemble the facts on which to base an opinion on this point.

Value of Accounting to Investors. Both investors and creditors use the information provided by accounting. They are influenced by information on revenues, costs, profits, and the financial condition of an enterprise. By studying the results of the past operations of an enterprise they can see in what the capital was invested, how the financial condition of the enterprise has changed, what the approximate earnings on capital have been, and other changes.

The statements may also provide evidence of unfavorable developments. These developments may or may not be the result of poor management; factors beyond the control of the management may account for them. But regardless of their source, the investor and creditor are interested in them.

The Value of Accounting to the Government. The government finds accounting valuable not only in keeping its own records but in many other

[1] See J. M. Keynes, *A Treatise on Money*, Harcourt, Brace and Company, New York, 1930, Vol. I, pp. 95–102.

[2] See Roy L. Garis, *Principles of Money, Credit, and Banking*, The Macmillan Company, New York, 1934, pp. 261–75.

ways. Among these are its use in taxation and in various types of regulation and control.

The income tax paid by the business enterprise is based upon profits. Consequently the government insists that profits be fairly computed.

Under such legislation as the Robinson-Patman Act, which prohibits many kinds of price discrimination, costs become very important. It is through accounting that costs are determined or approximated and allocated to the units to which they apply.

Finally, accounting is very important wherever prices or rates are regulated. It is important in determining the rates of public utilities. With the increasing trend toward government control over prices, a knowledge not only of cost computations but also of their limitations is essential.

The Value of Accounting to Labor. Millions of people in this country depend upon wages for the income needed to provide the necessities of life. Many of these people now belong to labor unions which have an important voice in determining the wages of their members.

Leading unions of the CIO and the AFL now like to deal with employers on the basis of facts. They prefer to meet with the employers and negotiate on the basis of factual information rather than to force a showdown. In such negotiations accounting becomes very important. Intelligent union leaders do not try to force a wage increase if the profits of the enterprise are not large enough to pay it. They know that to do so would eventually be to the disadvantage of their followers. Consequently in union negotiations questions almost always arise concerning the profits of the enterprise, its methods of computing profits, its financial condition, and the amount of capital invested.

In many important wage disputes presented to the National War Labor Board, accounting data have been extensively used.

The Value of Accounting to the Management. The value of accounting as an organizational device cannot be overemphasized. It is in this respect that accounting has made one of its greatest social contributions. The intelligent use of accounting data has been a factor in enabling executives better to coordinate and control their organization, resulting in increased efficiency, reduced costs, reduced prices for the consumer, and better wages for labor.

A few ways in which records are of value to executives are:

In planning the activities of the organization and in controlling and coordinating the organization.

In providing for the economic use and control of materials, in the control of waste and spoilage, and in determining the proper size of inventories.

In indicating whether or not the plant, machinery, and equipment are being used efficiently.

In providing costs of manufacturing, of selling, of administration, of extending

credit, of carrying inventories, etc., and in providing evidence as to whether or not these costs are reasonable.

In revealing favorable and unfavorable financial trends.

In providing information useful in determining pricing policies.

In revealing profitable and unprofitable lines of merchandise, territories, salesmen, and customers.

In revealing the effect of various volumes of sales upon the net profits.

In providing information upon which dividend policies and sound financial policies can be based in order to perpetuate the business.

The reader will observe that much of the information listed above would be valuable in any type of society, whether based upon the profit motive or not. One might continue with this list, but this is not the place for a comprehensive discussion. It is sufficient to indicate the wide application that may be made of accounting by intelligent accountants and executives.

Any approach to accounting theory should include a consideration of the needs of management. Every day the executive uses information produced by his accounting department, whereas the owner or investor looks over the statements briefly a few times a year at the most. Sound practices must be followed, but if information can be presented in such a way that it is more valuable to the management, and yet is not distorted or misleading to others, undoubtedly this is what should be done.[1]

An interesting illustration of the value of accounting to executives may be found in the experience of Russia. The Russian economy, lacking such automatic controls of the competitive system as the free play of prices, revolves around accounting. The state, as owner of the instruments of production, has found accounting, especially cost accounting, vital in the operation and control of its economic system.

Mr. C. A. Hubbard, in his excellent book *Soviet Money and Credit*,[2] states that there is little difference between the methods of calculating costs in Soviet enterprises and those in capitalistic enterprises, but that the purpose for which the information is used is different. Although profits and losses are not vital considerations in Russia, the state finds accounting for costs important in:

Planning production
Determining prices
Controlling waste and extravagance
Comparing the relative efficiency of plants and managements
Setting standards for the measurement of efficiency.

[1] See W. A. Paton, *Essentials of Accounting*, The Macmillan Company, New York, 1938, p. 3.

[2] C. A. Hubbard, *Soviet Money and Credit*, The Macmillan Company, New York, 1936, pp. 158–59, 249, 251–55, and 257. See also J. J. Wurman, "Cost Accounting and Management in Soviet Russia," *N.A.C.A. Bulletin*, XII, No. 11, Feb. 1, 1931, pp. 897–910.

Without cost accounting, control of efficiency, waste, and extravagance would be impossible in Russia. In this country we have the protection afforded by the fact that the less efficient enterprises, when they suffer losses, must become more efficient or be eliminated. In Russia dependence must be placed almost entirely upon cost accounting and related practices in management to assure efficiency.

Accounting and Bookkeeping. To the person with no knowledge of accounting, accounting and bookkeeping are one and the same. To him a bookkeeper is an accountant. Actually bookkeeping is only a very small and simple branch of accounting. It is the recording branch, a branch of which a person may have a fairly comprehensive knowledge and yet know little about the whole field of accounting.

Accounting as a profession requires as long and thorough a training as law or the majority of the other professions.[1] Many practicing accountants, it is true, do not have the formal education that is now required in most states for the legal profession. Yet many of these men rank high in the profession. The same is true of the profession of law: many fine lawyers have received their training in law offices. In some states this approach to the profession is still open. However, more accountants than lawyers have been trained in this way in the last few decades. But educational requirements for accountants are becoming more stringent, and this trend will probably continue. New York State now requires the equivalent of a college degree, and three years of experience before one can become a certified public accountant.

To obtain the necessary background in accounting a person must devote many years to the study of such basic accounting subjects as:

The fundamentals of accounting
Accounting theory
Auditing
Cost and industrial accounting
Income tax accounting, estate taxes
Government accounting
Budgetary control.

In addition to the basic courses in both elementary and advanced accounting, training in certain special aspects of accounting constitutes part of the training of the well-prepared accountant. A brief description of the most fundamental of these courses is given in the following paragraphs.

Auditing. An examination of the records in order to verify their accuracy and to detect fraud and error is called an *audit*, and the records

[1] J. B. Canning, *The Economics of Accountancy*, The Ronald Press Company, New York, 1929, p. 330.

are said to be *audited*. Most of the work of the professional public accounting firms is in auditing the records of companies and in preparing statements which they certify are reasonably correct. Auditing demands a thorough knowledge of accounting fundamentals and also of special auditing procedures.

Income Tax Accounting. Of all tax accounting, that of accounting for the taxes on the incomes of individuals and companies has been much the most important. Income tax accounting requires a knowledge of accounting fundamentals, of the income tax law and related laws, and of the various rulings that have been made by the Bureau of Internal Revenue and by the courts.

Cost and Industrial Accounting. One of the most interesting and valuable of all branches of accounting is that of cost and industrial accounting. Cost accounting is generally associated with industrial accounting, largely because industry has made the greatest use of this art, but other enterprises, such as wholesale and retail firms, in fact almost any business firm, will find some of the applications of cost accounting valuable. Cost accounting is frequently described as accounting for the unit costs and the total costs of goods manufactured. But cost accounting is much more than this. It is becoming more and more a means of executive control, and, in the form of systems of standard costs combined with budgetary control of expense, it is invaluable to management.

Budgetary Control. Budgetary control is simply a procedure for planning, coordinating, and controlling the activities of an organization. It is based upon a study of both the external and internal factors affecting the activities of that organization.

An expert knowledge of all branches of accounting is not necessary for budgetary control, but a much more thorough knowledge of the managerial aspects of accounting than is possessed by many accountants is desirable. Much information on sales fluctuations and on the relationship of costs to sales and to production is essential to successful budgeting. Adequate accounting records are the source of much of this information. In addition, many special studies and investigations are usually required to obtain adequate facts for successful budgeting.

Government Accounting. Government accounting is based upon fundamental accounting principles plus some special procedures. A knowledge of special adaptations of budgets and funds that are not found in ordinary accounting systems is required for an understanding of this subject. With the growing importance of governmental functions, a knowledge of these special procedures opens a wider field to the accounting graduate.

Opportunities in Accounting. The foregoing paragraphs are not intended to be thoroughly descriptive of special accounting courses. They

are intended to give the student an idea of the breadth of the field of accounting in which opportunities exist. Opportunities are found in public accounting, with the business enterprise, and with the government. All of these fields have expanded rapidly in the last few years.

Public accounting work is done by professional accounting firms, which may be local, national, or international in scope. They ordinarily offer a wide variety of accounting services to their clients. They perform audits, install systems of all kinds, prepare income tax returns, etc. The work of these firms has expanded greatly in the last decade because of the increased taxation and regulation of business by the government, and because of the greater interest investors are taking in receiving reliable information about companies. Accounting ethics require public accounting firms to render impartial and unbiased reports.

Accounting opportunities with business enterprises have also shown a great increase, partly the result of the demand by the government for reliable data, and the realization on the part of the management of the value of accounting data. The chief accounting officer of an enterprise is ordinarily called the *controller*. A good controller who can interpret accounting data for the management, who has the ability to do the research necessary to obtain the needed information, can be invaluable in a business enterprise. His interpretation of the accounting data will be used along with other data as the basis for many managerial decisions. Unfortunately the accountant who can intelligently interpret accounting data is much more rare than the accountant who can supervise the records and prepare the basic statements.[1]

The government is now connected in some way with almost all business activities. The Bureau of Internal Revenue, the Securities and Exchange Commission, the various regulatory commissions, and the many emergency boards are almost all interested in obtaining reliable accounting data. The result is that there has been an enormous demand by the government for trained accountants.

In fact, the field of accounting has developed so rapidly and the problems have become so complicated that we now find specialists in different branches of the field just as we have specialists in law and medicine. We find specialists in cost accounting, in taxation, in budgetary control, and in government accounting.

Accounting and Law. A knowledge of business law is valuable to the accountant, and a knowledge of accounting is valuable to most lawyers.

A knowledge of the law of contracts, sales, negotiable instruments,

[1] See statement by W. Stuart Symington, president of the Emerson Electric Co., "We believe a good accounting interpreter, tireless in finding leaks, diplomatic in handling them, is just about the rarest asset found in industry." Pamphlet "Getting the Production Job Done," The Society for the Advancement of Management, 1940.

corporations, estates, and bankruptcy is desirable in accounting. Much of the work of the accountant involves partnerships, corporations, estates, and bankruptcies. Consequently he should know enough about these fields to recognize legal problems when they arise and be able to obtain whatever expert advice he needs.

If we look at the reverse relationship we find that training in accounting is very desirable to the lawyer, because much of his work today involves accounting. Many prospective law students include as many accounting courses as they can in their training, and many of the leading law schools are now offering courses in accounting.

Other Related Training. In the last few decades, particularly in the last decade, there has been a great increase in the application of scientific management methods in business. This trend appears to be continuing, with labor taking a much greater interest than before. One very important labor union recently published its program of cooperation with management, a program that involves the application of the principles of scientific management.[1]

The soundly trained accountant is recognized as holding a position of great importance in management work. Sound decisions made by the management must be based upon facts, and the accountant is the head of one of the chief fact-finding and fact-analyzing divisions in the organization.

Unfortunately, the training of many accountants is so narrow that they know little about the problems of other departments of the business, or of the relationship of their own and other departments to the objectives of the business. Consequently, they often prove unequal to the task of interpreting the information produced by the accounting department; in fact, instances are known of erroneous interpretations by accountants that have resulted in unsound decisions by management. A West Coast manufacturer eliminated a great many lines of products in the belief that they were losing money. The result was a substantial reduction in the profits of the concern. The properly trained accountant would have been able to explain all the ramifications of such a change, and would have been able to help the management outline a sound constructive policy. Many schools of business are giving students a broad scientific approach to the problems of business. However, many institutions, and some of our leaders in the accounting profession, have not yet seen that the accountant, especially in industry and other businesses, can better carry out his responsibilities if he has considerable knowledge of such fields as management, marketing, statistics, finance, and business fluctuations.

[1] See "Production Problems," a pamphlet published by the Steel Workers Organization Committee, Pittsburgh, Pa.

The need for training in English cannot be overemphasized. The accountant must be able to express himself clearly, both orally and in writing.

Other subjects of value to everyone who hopes to achieve success in business are sociology and applied psychology. Success in most forms of human endeavor requires the ability to work in harmony with people and the ability to provide leadership. Courses in sociology and psychology provide an insight into human relations.

Finally, the accountant, like all other professional people, should have some training in other social sciences if for no other reason than that he be aware of his social responsibilities.

Accounting and Economics. Although both the accountant and the economist discuss many of the same topics, particularly income, costs, and valuation, the two fields are quite different. Economics deals with the general problems of satisfying human wants; accounting deals with the productive unit.

The economist has emphasized costs in relation to value; and for economic studies, value has been taken as exchange value. His emphasis upon costs has been upon costs as a factor in market prices and long-run prices. The accountant deals with the business enterprise's concept of costs. *Costs are considered to be monetary outlays for goods*[1] *and services.*

Despite the differences in emphasis, the accountant may benefit from a study of economics, and the economist may benefit from a study of accounting. The accountant can better understand his own practices and why they are followed if he understands other concepts of value, of income, and of costs. The economist who wishes to understand the operation of the business enterprise, a very important factor in the satisfaction of human wants, will find a knowledge of accounting useful. This does not mean that one cannot be a good accountant without a knowledge of economic theory. There are many fine accountants who have little knowledge of economic theory and the same will probably be true in the future. As Professor Canning has said, neither field ever included the other, nor did either field develop from the other.[2]

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain what is meant by a service-providing unit.

2. Why are people grouped together for productive purposes?

3. How is the organization of the service-providing units in the United States different from that of some foreign countries?

4. Of what relationship is accounting to the service-providing units?

5. What unit of measurement is used in accounting?

[1] The word "goods" includes material things such as merchandise, buildings, machinery etc.

[2] *Op. cit.* p. 310.

6. Of what social value is accounting?

7. Why is labor interested in accounting?

8. Distinguish between accounting and bookkeeping.

9. Name three special fields of accounting and explain what each of these fields covers.

10. Why should an accountant have some knowledge of:

a. Law?

b. Other business subjects?

c. English?

11. Discuss the relationship between accounting and economics.

12. What is the accountant's concept of costs?

CHAPTER II. REVENUES, EXPENSES, PROFITS

Profit Computations. Before discussing revenues, expenses, and profits, a few simple illustrations of profit computations are presented in order to make the discussion more realistic.

Mr. Ryer purchased some apples, shipped them to the city, and sold them to merchants. He paid $300 for the apples, $100 for the freight, $50 for rent of a building, and $30 to a helper. The apples were sold for $610. The profit from this venture can be computed as follows since the transactions are simple and were all for cash:

Sales		$610
Deductions from sales:		
Purchase price of apples	$300	
Freight	100	
Rent	50	
Helper's salary	30	480
Profit		$130

If the sales had not been made for cash but on credit, Mr. Ryer would have been unwise to consider his profit as $130. Ordinarily some customers fail to pay their bills. Mr. Ryer would probably include among his deductions from sales an estimated amount to cover what he might call his bad debts. If this amount were $20, Mr. Ryer's profit should be considered to be $110, computed as below:

Sales		$610
Deductions from sales:		
Purchase price of apples	$300	
Freight	100	
Rent	50	
Helper's salary	30	
Bad debts	20	500
Profit		$110

If Mr. Ryer purchased a secondhand truck for $600 to use to deliver the apples, the computation would be still different. If he spent $10 for gasoline and oil, this amount should be deducted in computing the profits. But what about the $600? Obviously the entire $600 should not be deducted from the amount of the sales. The truck will be used in the future, but will not last forever; it will gradually wear out. Some of the total services obtainable from the truck have been used up in handling the

apples that were sold, and something should be deducted from the sales to cover the costs of these services. If this were not done, Mr. Ryer would eventually have a worn-out truck, the cost of which had not been deducted from sales. Let us assume that Mr. Ryer estimated that of the total expenditure of $600 for the truck, $15 is the cost of services used up in delivering these apples to customers. The profit would now be reduced to $85 as shown below:

Sales		$610
Deductions from sales:		
Purchase price of apples	$300	
Freight	100	
Rent	50	
Helper's salary	30	
Bad debts	20	
Depreciation of truck	15	
Gasoline and oil used	10	525
Profit		$85

These simple illustrations have been presented to give the reader an idea of profit and loss computations. If these computations are kept in mind, the explanations of the fundamentals which follow will be easier to understand.

The Accounting Period. Profit and loss computations are, with few exceptions, made for a certain period of time, such as one year or one month. This period is called the *accounting period.*

The formal accounting period, often called the *fiscal period*, is considered to be one year. At the end of the year reports are made to the stockholders of corporations and to the Bureau of Internal Revenue.

Profits computed for shorter periods are likely to be distorted. Not only are the deductions from sales more difficult to determine, but all the seasons are not included. The greater the seasonal variations in the sales the less representative are the results likely to be. However, such estimates are quite useful to the management in making comparisons with the profits of the same period in prior years, and with other data. Even the formal accounting period of one year has deficiencies, for profits may vary greatly with changes in business conditions.

A year other than the calendar year may be used for the accounting period. A business that reaches its peak in September might end its fiscal year on September 30. At that time the inventories would be low and the employees would have more time to devote to the necessary clerical work.

Sales, Revenues. *A sale may be defined as the exchange of goods for a consideration.* The total in money of such exchange transactions is called the *sales* for that period of time. A sale is made by a store when the store provides customers with merchandise in exchange for cash or a claim for cash.

The word *sales* is not sufficiently comprehensive for accounting purposes. Some enterprises, instead of selling goods, render services to customers. Examples of such enterprises are public utilities, which provide light, water, and telephone service, and other enterprises like laundries, garages, and moving picture theaters. Also the government and its agencies render services for which payment is collected in the form of taxes. A more comprehensive term is needed to include all types of exchange transactions. *The word* "revenue" *or* "revenues" *may be used as a comprehensive term to include the exchange of goods and services for a consideration, and also the collection of taxes by the government and its agencies.* When goods are exchanged the word "sales" may be used as synonymous with revenue.

The amount for which the goods are sold need not be collected immediately in cash in order that revenue be recorded.[1] It is sufficient that a claim for money, or that some other consideration, be obtained. If goods are sold for $1,500 cash, or on credit, the sales are said to be $1,500. But neither the cash nor the claims against the customers constitute the sales. The amount of the sales is simply a statement of the amount, in terms of money, of such exchange transactions, a statement of the amount of the consideration received as a result of exchange transactions.

When a service is exchanged for a consideration some term that will describe the type of the revenue is used. When the services of a building are exchanged for a consideration the revenue is called *rent income, rent revenue*, or *rent earned*. When a person receives commissions in return for his services the terms *commission income, commission revenue*, or *commissions earned* are used. And when services are rendered by lending money to another party the terms *interest income, interest revenue*, or *interest earned* are used.

Expenses. There are two types of deductions made from revenue to obtain the operating profit for an accounting period. These are:

Expenses, and
Financial deductions.

Expenses are the monetary costs of the goods and services expended in obtaining the revenue for an accounting period. That is, expenses may be said to be the costs of revenue. When a grocery store sells merchandise during an accounting period for $300,000 its revenue for that period is $300,000. But in obtaining this revenue other goods and services were expended. Merchandise was expended in the sense that it was delivered to customers, and the services of sales clerks, delivery men, office employees, buildings, equipment, etc., were expended in the sense that they were used up or consumed. The costs of such goods and services are expenses that

[1] The prerequisites to the recording of revenue are further discussed in Chapter XVIII.

must be deducted from sales in order to obtain the profit. It is not always easy to determine the amount of a particular expense such as the cost of services received from a building, however, the accountant must determine these as accurately as he can. Otherwise the profit for an accounting period may not be determined with a reasonable degree of accuracy.

In the first part of this book we shall consider that the costs of all goods and services expended during an accounting period are expenses. This practice is ordinarily satisfactory for merchandising enterprises but not for manufacturing enterprises. Actually the costs of some goods and services expended during an accounting period may not be costs of the revenue of that period but of the revenue of future accounting periods. For example, the services of an employee of a manufacturing company might be used entirely in manufacturing goods which are not to be sold until a future accounting period. Although all the services are used up during a particular accounting period the cost is not an expense of that period because it is a cost of goods to be sold later. Expenses are costs of particular revenue. Hence, it is often said that *expenses are inseparably connected with revenue*. When in doubt accountants consider costs to be expenses; they would rather understate profits than overstate them.

Although the reader should have the fundamental theory well in mind, we shall, in the first part of this book, treat the costs of all goods and services expended during an accounting period as expenses. For the present the reader should do likewise.

We shall now discuss the following costs that are deducted from revenue as expenses:

The costs of material things used—natural resources, plant and equipment, and materials

The cost of the services of persons

The cost of such miscellaneous services as those rendered by public utilities, the government, and insurance companies.

The total services obtainable from natural resources such as timberlands, oil wells, quarries, and mines, decrease as the resource is used up. The operator of a coal mine may have purchased the property or he may have spent money to discover and develop it. If the costs incurred in obtaining the property amounted to \$100,000, and it was estimated that the property contained 50,000 tons of coal, the cost of the coal used up would be considered to be \$2 a ton. If during an accounting period 5,000 tons were sold, the cost of the coal used up in obtaining revenue, would be considered to be \$10,000, and this amount should be deducted from the revenue. The shrinkage in natural resources through use is called *depletion.*

The buildings, machines, docks, railways, and other equipment used to produce goods and services gradually wear out or become obsolete. That is, the total services they can render diminish with use, the effect of the weather, and with developments that occur with the passing of time. Such buildings and equipment may be considered to represent bundles of services, and as the services are used up the buildings and equipment are said to depreciate, and the cost of the services used is called *depreciation.*

Materials called merchandise are sold by stores, and materials are worked upon in factories and sold. The costs of such materials that are sold should be deducted from the revenues of each accounting period. Other materials, like coal, oil, stationery, wrapping paper, and twine are purchased, not for sale, but to be used up in the operations of the business. These are called *supplies.*

The services of human beings are used in various ways in an enterprise; to handle, sell, and deliver merchandise, in the office, and in various other ways. The costs of such services are deducted from revenue as sales salary expense, delivery salary expense, office salary expense, etc.

Business enterprises use light, heat, power, telephone and telegraph service, and other services, the costs of which should be deducted from revenue.

Financial Deductions. Some deductions from revenue are purely financial in nature, being made only when sales are made on credit. Examples of these deductions are claims against customers which the enterpriser is unable to collect, and discounts given to customers for paying their bills within a certain period of time. These deductions are called *bad debts* and *sales discounts*, respectively. They are not necessary for the production of goods and services, yet if a business extends credit, they must be made in order that the profits may be stated with reasonable accuracy. To the enterpriser these deductions are similar to expenses, and he makes no distinction between them.

Accounting opinion varies as to whether or not these deductions should be called expenses. Some accountants broaden their definition of expenses to include these. Others favor restricting the term expenses to the costs of the goods and services utilized in obtaining the revenue of a particular accounting period.

The definition of expenses given in this volume does not include bad debts and sales discounts. Yet for all practical purposes they may be so considered, and the writer will not attempt to segregate them from expenses in the remainder of this volume.

Profit, Loss. When goods or services are exchanged for an amount greater than the cost, a profit is made. For example, if a house purchased for $5,000 is sold for $5,800, a profit of $800 is made. If the house were sold for $4,000, a loss of $1,000 would be incurred. The operating profit

of a business enterprise is the excess of its revenue over its expenses. A business enterprise is said to sustain a loss when the expenses are greater than its revenues. Business enterprises ordinarily compute their profits or losses, not on each transaction, but on the total of the transactions for an accounting period.

Profits or losses may be sustained on transactions of a purely financial nature. A store might sell bonds that it owned for more than it paid for them, thereby making a profit.

More will be said about losses in Chapter VII.

Revenue and Deductions from Revenue Summarized. The nature of revenue and deductions therefrom to obtain the profit may be shown thus:

Revenue		$1,200	Amount of the consideration received in exchange for goods or services. The consideration received is usually cash or a claim for cash. (The revenue is not the consideration.)
Cost of the goods sold	$600		Cost of the goods sold.
Rent	100		Cost of other goods and services expended in providing the goods or services exchanged
Salary of helper	75		
Light, heat, etc.	35		
Supplies used	20		
Bad debts	50	880	
Operating Profit		$320	Difference between revenue and the expenses.

Allocation of Costs to Revenue. It should now be evident to the reader that one of the major responsibilities of the accountant is that of determining the portion of the cost that is an expense, or in the words of the accountant is that of *matching costs with revenue.*

In order to match costs with revenue the accountant generally determines the revenue for an accounting period, and then determines or estimates the costs of the goods and services expended in obtaining this revenue. This means that costs should be recorded as expenses in the same accounting period as the revenue for which they were incurred is recorded. This is not always done for the following reasons:

The expense of matching some costs with the revenue with which they should be matched is too great.

A satisfactory matching of costs with revenue may be obtained by recording some costs as expenses in a period preceding that in which the revenue for which they were incurred is obtained.

A satisfactory matching of costs with revenue may be obtained by recording some costs as expenses in a period subsequent to that in which the revenue for which they were incurred is obtained.

Costs so small that they make no material difference in the profit or loss of the accounting period are often recorded as expenses of that period,

when actually part of the cost should properly be deferred to be deducted from revenues of future accounting periods. This is particularly true when the amounts are small and it is difficult to determine how much should be deferred. For example, the costs of books of account such as journals and ledgers which would be used for several accounting periods should theoretically be distributed over these accounting periods. In practice this distribution would not be worth the effort, the costs being recorded as expenses when the purchase was made.

Some costs such as part of the sales salaries might result in increased sales in a subsequent accounting period, yet a satisfactory matching of costs with revenue will usually be obtained each period by deducting the full amount of the sales salaries as an expense of that period.

Other costs such as those incurred in collecting accounts from customers will almost always be in part recorded in an accounting period subsequent to that in which the revenue was recorded. Thus each accounting period would contain some collection expenses that should have been recorded in the preceding period. Ordinarily this practice will result in a satisfactory matching of costs with revenues.

To illustrate the allocation of costs to revenue, let us consider the Elko Trading Company, which started business in 1942. The following were the transactions for 1942:

Merchandise was purchased at a cost of $10,000, of which merchandise costing $8,000 was sold.

A truck that would last 4 years, after which it would be worthless, was purchased for $800.

Employees were paid $1,200.

Rent of $800 was paid.

These costs were distributed as shown in the following tabulation:

Type of the Cost	Amount of the Cost	Distribution 1942	Distribution Assets
Merchandise	$10,000	$8,000	$2,000
Truck	800	200	600
Wages	1,200	1,200	
Rent	800	800	
	$12,800	$10,200	$2,600

If the sales for the period were $15,000, the accountant would compute his profit as follows:

Sales		$15,000
Expenses:		
Merchandise	$8,000	
Wages	1,200	
Rent	800	
Depreciation of truck	200	10,200
Profit		$4,800

The portions of the costs that are not expenses are shown as assets on another statement called the *balance sheet*, discussed in Chapter III.

This discussion indicates that the profit or loss for any accounting period is ordinarily only an estimate. *As long as an enterprise has buildings, equipment, and claims against others, the profit or loss can be only estimated. The exact profit in terms of money cannot be obtained until everything is converted into cash.* The skill and accuracy with which the costs are allocated to revenue may have an important effect on the profits computed for any one period.

Income. The reader will find the word *income* used in various ways in accounting. He will also find the terms *gross income* and *net income* used.

The term *gross income* is ordinarily used synonymously with sales or revenue, although we find it used in other ways.

The terms *income* and *net income* may be used synonymously with *net profits*. Again, the usage is not standardized. In accounting, the meaning of the word income is not clear unless the reader knows the usage of the writer.

The Statement of Profit and Loss. Revenues and expenses are summarized on a statement variously called the statement of profit and loss, the statement of income and expense, the statement of revenue and expense, or the statement of earnings.

The statement of profit and loss is a statement of the sales or other revenues for an accounting period from which the expenses are deducted to obtain the operating profit for the accounting period. To this operating profit other additions and deductions may be made to obtain the net profit before Federal taxes.

The following is a statement of profit and loss of the B. & W. Supply Co. for the period January 1 to June 30, 1944:

B. & W. Supply Co.

Statement of Profit and Loss

January 1 to June 30, 1944

Sales			$158,725.10
Less: Sales Returns and Allowances		$1,291.60	
Sales Discounts		1,200.40	2,492.00
Net Sales			$156,233.10
Cost of Goods Sold:			
Inventory, Jan. 1, 1944		$13,265.70	
Purchases	$138,700.25		
Purchases Returns and Allowances	2,233.10	136,467.15	
Freight In		4,315.50	
Goods Available for Sale		$154,048.35	
Inventory, June 30, 1944		19,985.50	134,062.85
Gross Margin			$ 22,170.25

Other Operating Expenses:		
Sales Salaries	$ 6,843.20	
Advertising	1,873.25	
Sales Supplies Used	1,435.65	
Office Salaries	2,190.50	
Office Supplies Used	965.90	
Taxes	334.65	
Insurance	115.60	
Heat and Light	238.75	
Telephone and Telegraph	192.50	
Sundry Office Expense	785.60	
Depreciation of Sales Equipment	134.60	
Depreciation of Office Equipment	98.50	
Bad Debts	842.30	16,051.00
Operating Profit		$6,119.25
Less: Interest Paid		235.15
Net Profit before Federal taxes		$5,884.10

The heading of the statement is usually placed in the center of the page. It contains the name of the business, the name of the statement, and the period covered by the statement. It is very important that the period covered be shown. Whether the profit is for a month or a year makes a great deal of difference.

The different sections of the profit and loss statement are now explained.

Sales. A sale has already been defined as the exchange of goods for a consideration. The amount of the sales for an accounting period is the total of these exchange transactions.

Sales Returns and Allowances. Customers are generally permitted to return goods in reasonable amounts. In other instances the customer keeps the goods but receives an allowance in cash or as a credit to his account, which is called a sales allowance.

The amount of these returns and allowances is deducted from sales upon the statement of profit and loss.

Sales Discounts. Sales discounts are deductions that customers are permitted to make from the amount they were charged provided they pay their bills within a certain period of time.

Net Sales. The amount of the net sales is obtained by deducting the amount of the sales returns and allowances and sales discounts from the sales. (Some accountants exclude the sales discounts from the computation of the net sales.)

Cost of Goods Sold. Certain costs are incurred to acquire goods and get them in condition for sale. These costs, or the portions thereof that apply to the goods sold during the period, should be deducted from the sales

as an expense of the period. The balance is considered to be the cost of the inventory and is deferred to be deducted from sales of future accounting periods. The cost of the goods sold during an accounting period may be obtained in several ways. A record may be made of these costs as the sales are made, which is seldom done in a small business. Or, the costs may be obtained indirectly by the inventory method.

The inventory method is now illustrated, the following data being used: the cost of the merchandise inventory on January 1 was $2,000, merchandise was purchased at an invoice price of $6,000 on which freight in and cartage in of $500 was paid. The cost of the goods sold is obtained by an inventory being taken on January 31 and the costs of that inventory determined. If the inventory on hand on January 31 had cost $1,500 at invoice prices, and if the freight on this inventory was $300, making a total cost of $1,800, the cost of goods sold would be computed as follows:

Inventory, Jan. 1	$2,000
Purchases	6,000
Freight In	500
Goods Available for Sale	$8,500
Inventory, Jan. 31	1,800
Cost of Goods Sold	$6,700

The costs making up the cost of goods sold are no different from the other costs of the business except that they can usually be more closely identified with the product. The cost of goods sold is discussed again in Chapters VIII and XVIII.

The Gross Margin, or the Gross Profit. The *gross margin* or the *gross profit* is obtained by deducting the cost of the goods sold from the net sales. The gross margin is an important figure in merchandising enterprises, where the management often compares the gross margin of different lines.

Other Operating Deductions. From the gross margin the expenses are deducted to obtain the operating profit. The expenses would include such items as sales and office salaries, advertising, delivery expenses, freight out, office supplies used, telephone and telegraph expense, the cost of heat and light, bad debts, and credit and collections expenses.

These expenses may be further classified into such groups as selling expenses, general and administrative expenses, and still others if desirable. The statement of profit and loss on page 21 is now made up in this way:

B. & W. Supply Co.

Statement of Profit and Loss

January 1 to June 30, 1944

Sales			$158,725.10
Less: Sales Returns and Allowances		$1,291.60	
Sales Discounts		1,200.40	2,492.00
Net Sales			$156,233.10
Cost of Goods Sold:			
Inventory, Jan. 1, 1944		$ 13,265.70	
Purchases	$138,700.25		
Purchases Returns and Allowances	2,233.10	136,467.15	
Freight in		4,315.50	
Goods Available for Sale		$154,048.35	
Inventory, June 30, 1944		19,985.50	134,062.85
Gross Margin			$ 22,170.25
Selling Expenses:			
Sales Salaries	$6,843.20		
Advertising	1,873.25		
Sales Supplies Used	1,435.65		
Depreciation of Sales Equipment	134.60	$ 10,286.70	
General and Administrative Expenses:			
Office Salaries	$2,190.50		
Office Supplies Used	965.90		
Bad Debts	842.30		
Taxes	334.65		
Heat and Light	238.75		
Telephone and Telegraph	192.50		
Insurance	115.60		
Sundry Office Expenses	785.60		
Depreciation of Office Equipment	98.50	5,764.30	16,051.00
Operating Profit			$ 6,119.25
Less: Interest Paid			235.15
Net Profit before Federal Taxes			$ 5,884.10

The classification of expenses will be discussed in Chapter XV.

The Operating Profit. After all the operating deductions are made from the revenue the operating profit is obtained. This is ordinarily the profit produced by the major revenue of the enterprise. Profits from any other source, such as from the sale of investments, would not be included.

The Net Profit before Federal Taxes. This net profit for an accounting period is a composite of the operating profit or loss and all other profits, losses, or revenues for that particular period. It is the profit before Federal income taxes are computed.

Other Cost Distributions. The discussion in this chapter has been restricted to the allocation of costs to revenue. Other cost allocations may be equally important, or if not as important, still desirable.

The accountant will usually find it desirable to allocate costs to revenues of different departments, products, territories, and salesmen, or even to revenues obtained from different classes of customers.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. If you rented a lot which you used for 2 weeks in December for the storage and display of Christmas trees which you purchased and sold, enumerate the expenses you would probably incur in this venture. How would you determine your profit or loss?

2. Explain the nature of a sales transaction.

3. What is your understanding of the meaning of the following expressions?

Revenue — Expenses
Costs — Operating profit
Net profit before Federal taxes

4. What is an accounting period?

5. What is meant by the statement, "Expenses and revenues are inseparably connected"?

6. What is meant by the phrase, "matching costs with revenue"?

7. What is depreciation? Depletion?

8. Is there any similarity between an expenditure for the salary of a salesman and one for a building?

9. What are supplies?

10. Explain why the profit shown on most profit and loss statements is an estimate.

11. Can you think of any type of business for which the profit shown on the statement of profit and loss would not be an estimate?

12. What deductions would be made from the sales of an enterprise selling on credit that would not be made by an enterprise selling for cash?

13. Why do some accountants believe that bad debts and sales discounts should be considered expenses?

14. Make up a profit and loss statement from the following:

Sales	$10,000	Supplies Used	$60
Cost of Goods Sold	7,500	Telephone and Telegraph Expense	40
Rent Expense	400	Heat and Light	50
Sales Salary Expense	300	Insurance Expense	10
Office Salary Expense	150		

15. What costs are used in determining the cost of goods sold?

16. How is the gross profit or gross margin determined?

17. The following is a condensed profit and loss statement of the Argus Steamship Company:

Revenues from Ship Operation	$ 800,000
Other Revenues	400,000
Total Revenues	$1,200,000
Operating Expense	1,000,000
Operating Profit	$200,000

The other revenues were profits on the sale of two ships. Do you have any criticism to make of this profit and loss statement?

18. Determine the amount of each of the following costs that would be deducted from the January sales of a merchandising enterprise:

Paid a salesman his salary of $150 for January.
Advanced a salesman his February salary of $150.

Purchased merchandise for $1,600. There was no merchandise on hand January 1. Merchandise on hand January 31, $700.

Purchased insurance for one year starting January 1, for $48.

Purchased paper and twine to be used by sales department, $25. On January 31 paper and twine which cost $5 was unused. The difference was used.

Purchased envelopes and stationery to be used in the office, $18. Envelopes and stationery which cost $8 were on hand on January 31.

Paid a bookkeeper his salary for January, $125.

Purchased a truck for $920. The truck will be used for 3 years, after which it will be traded in. The trade-in value is estimated to be $200.

Paid rent of $200 for January.

Paid $200 as rent for the last month of the lease, which is for one year.

LABORATORY PROBLEMS

1. Make up a profit and loss statement for the month of January 1944 for the Western Trading Co. from the following:

Merchandise sales, $15,000.
Purchase price of the merchandise that was sold, $13,000.
Freight paid on the merchandise sold, $600.
Rent for the period in which the merchandise was sold, $100.
Insurance for the period, $20.
Taxes for that period, $35.
Salaries for that period, $200.
Supplies used during the period, $60.

2. Parts (a), (b), and (c) are to be done on one side of one sheet of journal paper.

(a) For $10,000 Wm. Smythe purchased coal lands which adjoined a road. He hired a helper, purchased some supplies and tools, and commenced to mine coal, which was loaded on the trucks of purchasers. During the first 6 months Mr. Smythe estimated that he mined about 1/50 of the coal on his property. He paid the helpers wages of $800, and used up supplies and tools which cost him $250. During the 6-month period he sold all the coal he mined for $2,000 cash. Determine his profit or loss for the period.

(b) For $18,000 Mr. R. J. Hong purchased timberlands estimated to contain 6,000,000 board feet of timber. He put in a small mill, at a cost of $12,000, that would last until the timber was cut, after which it would be abandoned. During the first year he cut 200,000 board feet of timber, from which he obtained lumber which he sold for $5,500 cash. He paid various expenses of $3,000 for the year. The timberlands would be valueless when the timber was cut. Determine his profit or loss for the first year.

(c) On January 1, Mr. W. E. Tait purchased 1,000 cases of salmon for $15,000. During the month he made sales of $13,000, all for cash. He paid the following expenses for the month:

Rent, $200.
Supplies (all used), $25.
Salary of a helper, $80.

On January 31 he paid $60 for insurance for one year commencing February 1. At the end of the month there were 200 cases of salmon still on hand. Determine the profit or loss for the month.

3. On January 1, 1944, Mr. R. T. Hall invested $10,000 cash in a business. During January the following transactions took place:

Purchased merchandise for $6,000.
Paid salaries for January, $500.
Advanced an employee his February salary, $100.
Paid rent for January, $300.
Purchased a truck, $960.
Purchased supplies, $60.
Purchased insurance for one year from January 1, $48.

On January 31 merchandise costing $2,000, and supplies costing $25 were on hand. It was estimated that 1/24 of the total services obtainable from the truck were obtained in January.

Parts (a) and (b) are to be done on one side of one sheet of journal paper.

(a) You are required to make up a tabulation showing the distribution of the costs to January and the amounts that would be deferred. *Note:* Insurance was for one year; the truck had no salvage value.

(b) If the sales for January amounted to $4,800 and were all made for cash, prepare a profit and loss statement for January.

4. (a) Make up a tabulation showing the amount of the following costs distributed to January sales and the amount deferred: On January 1 insurance for one year was purchased for $60. On January 16 a truck was purchased for $900; it is estimated that the truck will be used for 3 years, after which it will be of no value; the truck will be consistently used and will cover about the same mileage each year. A building was purchased on January 1 for $10,800; it is estimated that it will be obsolete in 12 years, at which time it will be demolished; the amount received for the scrap materials will exactly pay for the cost of demolishing the building. An advertising contract providing for one advertisement of the same size during each of the months of January, February, and March was made; this contract was for $90 which was paid. Merchandise was purchased for $1,200, of which merchandise costing $400 was on hand on January 31.

(b) During January merchandise of one kind was purchased for $6,000. Freight and cartage in of $600 was paid on this merchandise. Two-thirds of this merchandise was sold during January. What was the cost of merchandise sold during January?

5. From the following information make up a statement of profit and loss for The Jones Trading Co. for the year ending December 31, 1943:

Sales, $78,900.
Cost of the merchandise sold, $62,000.
Sales salaries, $4,800.
Sales supplied used, $800.
Delivery salaries, $1,800.
Delivery supplies used, $1,200.
Insurance, $150.
Office salaries, $2,800.
Office supplies used, $400.
Telephone and telegraph expense, $300.
Taxes, $250.
Depreciation of delivery equipment, $300.
Rent expense, $3,600.

6. From the following information make up a statement of profit and loss for The Hermison Store for the year ended December 31, 1943:

Sales, $110,000.
Purchases, $100,000.
Freight and cartage in, $3,600.
Sales salaries, $3,800.
Sales supplies used, $1,200.
Delivery salaries, $2,800.
Delivery supplies used, $1,500.
Office supplies used, $1,000.
Office salaries, $2,400.
Depreciation of building, $1,600.
Depreciation of sales fixtures, $400.
Depreciation of delivery equipment, $600.
Depreciation of office equipment, $200.
Insurance, $300.
Taxes, $450.
Sundry expenses, $650.
Merchandise inventory on December 31, $12,000.

7. Mr. A. T. Mark started a business on June 1, 1942. He purchased land and a building for $10,000. The land was considered to have cost $3,000. Merchandise was purchased during June for $16,000. Freight of $1,000 was paid on the merchandise. Salaries of $400 were paid for June. Insurance for one year from June 1 was purchased for $78. Supplies were purchased for $75. A truck was purchased for $1,200. Sundry expenses of $60 were paid for June. Five-eighths of the merchandise was sold during June. Sales for June amounted to $15,500. All the sales were on credit. From his past experience in business Mr. Mark estimated that 1 per cent of the sales would prove uncollectable. Mr. Mark believed the building would be usable for 25 years, after which it would be torn down; he believed the sale of the materials in the building would cover the cost of its removal. He believed the truck would be used for 4 years, after which it would be valueless. Supplies which cost $25 were on hand on June 30. From the above information make up a statement of profit and loss for the month of June.

8. Make up a statement of profit and loss for The Burton Wholesale Co. from the following data for the year ending December 31, 1943; show the gross margin, the selling expenses, and the general and administrative expenses:

Sales, $168,250.65
Sales returns and allowances, $1,415.60
Sales discounts, $2,895.10
Sales salaries, $12,293.60
Office salaries, $4,215.10
Delivery expenses, $4,495.20
Freight out, $1,215.60
Sales supplies: On hand, January 1, 1943, $400; purchased during 1943, $1,300; on hand December 31, 1943, $500.
Office supplies: On hand January 1, 1943, $75; purchased during 1943, $800; on hand December 31, 1943, $100.
Inventory of merchandise January 1, 1943, $9,895.10; purchases, $135,253.70; freight in, $2,296.50; inventory December 31, 1943 (at cost, including freight in), $14,216.75
Bad debts, $725.60

Advertising, \$3,395.60

Insurance premiums paid in advance for one year from January 1, 1943, \$392.10

Telephone and telegraph, \$60.50

Heat and light, \$76.50

The building was purchased on June 30, 1931, for \$50,000; at that time its estimated life was 25 years and its scrap value was so indeterminate that it was disregarded in computing depreciation.

Property taxes for 1943, \$896.10

CHAPTER III. THE BALANCE SHEET

The Balance Sheet. The balance sheet of a business enterprise, sometimes called a statement of financial condition, is a statement of its assets, liabilities, and proprietorship. Before discussing each section of this statement we shall first present an illustration of a simple balance sheet, that of Wm. Weston as of December 31, 1944:

Wm. Weston

Balance Sheet,
December 31, 1944

Assets		*Liabilities and Proprietorship*	
Cash	$3,300	Accounts Payable	$1,200
Accounts Receivable . . .	2,500	Notes Payable	1,000
Notes Receivable	1,000	Mortgage Payable	5,000
Inventories	2,000	Total Liabilities	7,200
Building and Equipment . .	12,000	Wm. Weston, Proprietorship . .	15,100
Delivery Equipment . . .	1,500		
	$22,300		$22,300

This form of balance sheet, with the assets listed on the left-hand side and the liabilities and proprietorship on the right-hand side, is called the *account* form. This is distinguished from another form called the *report* form on which the assets are presented first, followed by the liabilities and the proprietorship, as follows:

Wm. Weston

Balance Sheet,
December 31, 1944

Assets		
Cash	$ 3,300	
Accounts Receivable . . .	2,500	
Notes Receivable	1,000	
Inventories	2,000	
Buildings and Equipment . .	12,000	
Delivery Equipment . . .	1,500	
Total Assets		$22,300
Liabilities		
Accounts Payable	$ 1,200	
Notes Payable	1,000	
Mortgage Payable	5,000	
Total Liabilities . . .		7,200
Wm. Weston, Proprietorship . .		$15,100

A balance sheet may be considered to be a statement of assets, liabilities, and their difference the proprietorship. Or the liabilities and proprietorship may be considered to be the sources of the assets, the liabilities showing the amount of assets provided by the creditors of the business, and the proprietorship showing the amount provided by the owner or owners. These sections will now be discussed in more detail.

Assets. Assets are often defined as property or things of value owned by a business. Assets are of value to a business in that they represent costs of goods and services purchased, or the power to purchase goods and services. However, the asset section of the balance sheet does not represent the sales value of assets, and since the word value conveys this impression, accountants are now avoiding it[1] and are emphasizing the relationship between assets and costs of goods and services. Although a relationship can be drawn between all assets and costs, it seems to the author that it is desirable to recognize two different types of assets:

1. Certain property rights such as cash, claims for cash, and investments, and
2. Assets which are simply costs to be deducted from the revenues of future accounting periods.

Assets of the first type, with investments sometimes an exception, are closely related to cash. Claims that a business has against others, and investments, ordinarily provide cash or can be used to provide cash. Assets of this type provide the business with general purchasing power.

Assets of the second type are simply costs to be deducted from revenues of future accounting periods, or as frequently stated, they are "revenue charges in suspense awaiting some future matching with revenue as costs or expenses."[2] For example, when a building is purchased by a business for $50,000, a cost of $50,000 is incurred which it expects to deduct as an expense from the revenues received during the life of the building. The portion of the cost that is deducted each accounting period is an expense, and the balance is an asset. Or when a business purchases merchandise during January for $5,000, and on January 31 $2,000 of this merchandise is still on hand and $3,000 sold, the $2,000 would be an asset and the $3,000 an expense.

Some of the common assets in these groups are shown in the following illustration on page 32:

[1] Geo. O. May, *Financial Accounting*, The Macmillan Company, New York, 1943 p. 8, ". . . it is surprising to find how generally accounting was described at one time as a process of valuation, up to how recent a date this view was maintained, and how pronounced and rapid the change has been. . . . Then, the valuation approach becomes impracticable and resort to cost as the primary line of approach becomes almost inevitable."

[2] W. A. Paton and A. C. Littleton, *An Introduction to Corporation Accounting Standards*, The American Accounting Association, 1940, p. 40.

Assets

Assets of the first type: certain property rights like cash, etc.	Cash Accounts Receivable Notes Receivable Investments
Assets of the second type: assets to be deducted from the sales of future accounting periods.	Inventory Prepaid Insurance Buildings and Equipment Delivery Equipment

These two groups will now be discussed.

Certain Property Rights as Assets. As stated before, these are such assets as cash, claims against others, and investments.

Cash includes not only cash on hand but bank deposits, undeposited checks, money orders, and anything that the bank will accept for immediate deposit to the credit of the enterprise.

The term *accounts receivable* is ordinarily applied to claims of the seller against customers for goods and services sold to them on open account in the regular course of business with no written promise to pay received from the customers. *Other claims on account* against individuals are usually given some title that will be descriptive. When an officer borrows money from the enterprise, the claim for this money is given some such title as Loans to Officers, or Advances to Officers.

A note receivable is obtained when the enterprise receives a signed promise to pay a certain amount on demand or at a definite or determinable future date. Such a note is called a promissory note. The enterpriser may obtain money at the bank by discounting these notes, but the ability to do so depends upon the credit standing of the person who signs the note, of the enterpriser, or of both.

Investments are of different types. Investments in government securities represent the investment of surplus funds of the enterprise. Investments in U. S. Government bonds are so readily convertible into cash that they are often looked upon as a secondary reserve of cash. The same is true of investments in many other corporate securities. On the other hand, some investments are not readily convertible into cash, and others may be very closely connected with the operations of the enterprise. An example of the latter type of investment is the investment by a wholesale grocery firm in a chain of retail stores. This investment is an important link in the operations of the enterprise. If it were disposed of, a considerable portion of the wholesaler's sales might be lost.

Costs as Assets. Examples of assets of the second type, costs to be deducted from revenues of future accounting periods, are costs of merchandise, machinery, furniture and fixtures, trucks, boats, docks, railways,

buildings, etc. Costs of land are also of this type. However, land is unique in that its use as a building site does not decrease its capacity to render future services.

Costs of buildings and the like require little explanation at this time. They are the costs of goods and services which will be used in producing other goods and services for sale. As the services are used, a portion of their cost should be deducted from the revenue.

Other costs recorded as assets are not quite so readily understood by the student. For example, on January 31 a salesman was advanced his salary of $150 for February. On January 31 this amount would be considered to be an asset. It is the cost of services to be obtained in future accounting periods, in this case a cost to be deducted from February sales. Costs of this type, often called *prepaid expenses*, are costs incurred in advance of the receipt of the services for what are ordinarily considered to be recurring expenses of the business.

A slightly different example is that of the salary of a salesman for a wholesale enterprise who in December received orders for goods to be delivered in January. Although the services of the salesman were rendered in December, the sales of which they are a cost will not be made until January. On December 31 this cost should be considered an asset, and should theoretically be deferred to match with the January sales. Ordinarily this is not done, as a satisfactory matching with revenue can be obtained by recording such costs as expenses of the month in which the services were obtained.

Costs incurred in one period for advertising and sales promotion will frequently result in increased sales in later periods. That portion of the cost which will increase sales in future accounting periods may be considered an asset.

Costs may be incurred to rearrange the equipment in a factory in order to decrease operating costs. The total of such costs would be a cost of the sales made during the period of time that would be benefited from this rearrangement. If this period were known, a portion of the cost would be allocated to the sales of each accounting period as an expense, and any balance deferred would be shown as an asset.

A business may incur a cost which, though it adds little if any direct service, may be considered to be an asset. A railroad might be required to put in overhead crossings, and the cost of such construction would ordinarily be recorded as an asset. This is done on the theory that the cost is an additional cost of services already being received. The services will cost more in the future than in the past. Since this is so, the practice of considering such costs as assets to be deducted from future revenues would appear to be sound.

Another tabulation similar to that in Chapter II is now presented in order to clarify further the distinction between expenses and assets.

Transactions	*Additional Information*	*January Expense*	*Asset as of January 31*
1. Merchandise purchased on January 1, $4,000	Merchandise that cost $1,000 was on hand on January 31	$3,000	$1,000
2. Freight on merchandise, $600	Merchandise was all of the same type	450	150
3. Insurance purchased on January 1 for one year, $60	Insurance for one month has expired	5	55
4. Truck purchased on January 2, $960	Estimated depreciation $20 per month	20	940
5. Supplies purchased, $75	Supplies on hand, January 31, $25	50	25
6. Paid salesman his January salary, $125	None of the amount applies to future sales	125	
7. Paid January rent, $150		150	
8. Advanced salesman his salary for February, $125			125
9. Paid rent for the last month of a lease for one year, $150			150

Item 1 in the tabulation shows the distribution of the $4,000 that was expended for merchandise. Merchandise costing $1,000 was unsold on January 31. This cost is considered an asset. It will be deducted from the sales of the period in which this merchandise is sold. The remaining $3,000 is a cost of the merchandise sold. This amount is an expense and will be deducted from the current sales.

The freight of $600 on the merchandise, item 2, was divided proportionately between the merchandise on hand and that sold. One-fourth of the $600, or $150, is a cost of the merchandise still unsold. This amount is considered to be an asset, a part of the cost of merchandise, and will be deducted from future sales as a merchandise cost.

Insurance for one year, item 3, was purchased on January 1 for $60. One-twelfth of this cost, or $5, is considered expense. The balance is a cost of future sales and is considered an asset.

Item 4 records the purchase of a truck for $960. It is estimated that one-fourth of the services of the truck, amounting to $240, are used up each year. The services used each month would cost $20, and would be an expense, the balance of $940 being an asset.

Item 5 is the cost of supplies purchased for $75. Since on January 31 supplies which cost $25 were still on hand, supplies which cost $50 have been used; the expense is $50, and the asset is $25.

Items 6 and 7 are similar. They are costs incurred for a sales salary and rent, both for January. As no part of these costs are costs of sales of future accounting periods, the entire amounts are considered to be expenses.

Items 8 and 9 represent costs of sales of future accounting periods:

item 8 the advance to a salesman of his salary for a future period, item 9 the payment of the rent of a future accounting period. No part of these costs applies to the current sales; therefore the entire amounts are considered to be assets.

The costs recorded on the books at the end of an accounting period should be shown either on the statement of profit and loss or on the balance sheet. The portions of the costs that apply to the current sales are listed as expenses and deducted from sales. The portions that apply to goods and services on hand or not yet used up are shown on the balance sheet. For example, if there were on hand on January 1 office supplies that cost $50, and if office supplies were purchased for $150, the total cost of the supplies available during the period would be $200. If supplies that cost $75 were on hand at the end of the period, supplies that cost $125 were used, and would be shown on the statement of profit and loss; the $75 would be shown on the balance sheet.

Liabilities. A liability is a financial obligation of the enterprise to a creditor for goods or services received. The obligation is usually, but not always, definite in amount; and the obligation must be certain, not a mere possibility. Examples of liabilities with which most people are familiar are: accounts payable, notes payable, and mortgages payable.

A *note payable* is a written promise to pay a sum of money to another party at some fixed or determinable future date. A note payable is made out when money is borrowed from a bank, and, although it is not the common practice, one may be issued when merchandise is purchased.

Accounts payable are obligations which ordinarily arise from the purchase of goods for which payment has not been made and for which a note payable has not been issued. The purchases are said to be on "open account," or "on account." When a store purchases merchandise from a factory the purchase is ordinarily made on open account. The evidence of such a transaction is found in the seller's records. In the United States most goods and services are exchanged in this way.

A *mortgage* is represented by a signed document which gives the holder of the mortgage a lien on some asset. A mortgage is ordinarily placed upon land or buildings, although it may be placed upon merchandise, machinery, or other equipment. If the claim is not paid at maturity, or if the interest is not paid, the holder of the mortgage may insist that the property be sold to satisfy his claims.

Accountants usually do not show as liabilities obligations for which the goods or services have not been received by the enterprise or its agent. For example, a business signed a 10-year lease, the terms of which provided for a rental of $6,000 a year, a total of $60,000. The $60,000 would not be shown on the balance sheet as a liability, but the rent expense would be

recorded as the services were received, and a footnote would be appended to the balance sheet to direct attention to the obligation of the lease.

On the other hand *if payment has not been made for goods and services received during the accounting period liabilities should be recorded at the end of the period for these goods and services.* The reader would readily list as liabilities accounts and notes payable, but there are others that are not so easily recognized. These are liabilities for expenses that accrue from day to day. For example, a balance sheet is being prepared on December 31, on which date rent of $200 for December had not been paid, because it was not due until January 5. The fact that the rent has not been paid and that it was not due on December 31 is of no importance. The important fact is that the services were received during December and had not been paid for; therefore a liability of $200 should be listed on the balance sheet as of December 31. If the rent of $200 were due on January 15 and covered the period December 15 to January 15, one-half of the $200 or $100 should be listed as a liability on December 31. Other common examples of liabilities of this type, commonly called *accrued liabilities,* are those for unpaid wages and salaries, unpaid taxes, and unpaid interest.

Contingent Liabilities. There are times when an enterprise may have made commitments that may result in a liability's arising in the future. An enterprise may indorse the notes or bonds of another party, that is, agree to pay these obligations if the other party does not. A definite liability for these obligations does not exist, but there is a possibility that a liability will arise under certain circumstances. The liability depends upon a contingency, and it is said that a *contingent liability* exists. Contingent liabilities are mentioned in a footnote appended to the balance sheet, or are shown in the main part of the balance sheet but the amount is not added in to obtain the total of the liabilities.

The Proprietorship. The proprietorship of a business enterprise is the amount invested directly and indirectly by the owners. Other terms used instead of proprietorship are: capital, net worth, and net assets. When the term *capital* is used it is in the sense of the net capital, the capital contributed by the owners. The assets comprise the total capital of the enterprise. The term *net worth* is misleading in that it conveys the impression that the amount represents the present value of the enterprise. The accountant makes no such claim.[1]

If John Brill invested cash of $3,000 in a business, the business would have cash of $3,000, and the proprietorship would be $3,000:

Assets		*Liabilities and Proprietorship*	
Cash	$3,000	John Brill, Proprietorship . . .	$3,000

[1] This is discussed in more detail in Chapter XVI.

If $1,200 of this $3,000 were used to purchase merchandise, the proprietorship would be the same as before. The only change would be in the assets. The asset cash would be decreased $1,200 and the asset merchandise increased $1,200, and the balance sheet would be:

Assets		*Liabilities and Proprietorship*	
Cash	$1,800	John Brill, Proprietorship	$3,000
Merchandise	1,200		
	$3,000		$3,000

If additional merchandise were purchased for $1,300 on credit, the proprietorship would still be unchanged, and the balance sheet would appear as follows:

Assets		*Liabilities and Proprietorship*	
Cash	$1,800	Accounts Payable	1,300
Merchandise	2,500	John Brill, Proprietorship	3,000
	$4,300		$4,300

Of the assets of $4,300, the creditors contributed $1,300 and the owners $3,000. *The assets will always equal the total of the liabilities plus the proprietorship. Therefore, the proprietorship can always be obtained by deducting the amount of the liabilities from the amount of the assets.*

If a business is operated as a partnership the total proprietorship may be obtained in the same way; it is still the amount obtained by the deduction of the amount of the liabilities from the amount of the assets. If the assets amounted to $25,000 and the liabilities to $10,000, the proprietorship would be $15,000. If A. Young's equity in the proprietorship was $10,000 and Wm. Hall's equity $5,000, the balance sheet made up in abbreviated form would be:

Assets		*Liabilities and Proprietorship*		
Assets	$25,000	Liabilities		$10,000
		Proprietorship:		
		A. Young	$10,000	
		Wm. Hall	5,000	15,000
	$25,000			$25,000

Ownership is obtained in a corporation by the purchase of shares, which are called *shares of the capital stock* of the corporation. This capital stock is supposed to represent the actual investment made in the enterprise by the owners. For example, if the capital stock of a corporation is sold for $5,000 cash, the corporation will have assets of $5,000 and a proprietorship of $5,000.

The total proprietorship of a corporation represents the equity of the stockholders in that corporation. Consequently one may wonder why the proprietorship of a corporation is not shown as one amount. The reason

is that the laws of the various states ordinarily require that the capital stock be recorded separately. A corporation is different from an individual enterprise and a partnership because in the eyes of the law it is considered to be an artificial person separate from its stockholders. If the stockholders have paid the amount required under the state law for their capital stock, they are subject to no further liability. If the corporation becomes bankrupt the stockholders' personal assets are free from claims of the creditors. The stockholders are not liable for the debts of the corporation.[1] Because of this limited liability of the stockholders the creditors must be given some protection. This is done by states requiring that a certain amount of capital must be contributed by the stockholders and that this capital must not be withdrawn by the stockholders. If $20,000 were withdrawn by the owners of any type of enterprise the assets would be reduced $20,000 and the proprietorship would be reduced the same amount. *The stockholders of a corporation must not withdraw assets to an amount that would reduce the proprietorship below the amount of the capital stock.* In other words, the maximum withdrawal they can make is an amount equal to the surplus of the corporation.

To illustrate the nature of the surplus of a corporation, let us assume that a corporation is formed with a capital stock of $10,000, all of which is sold for $10,000 cash. Of this $10,000, cash of $5,000 is paid for merchandise, and merchandise is purchased for $1,000 for which a note payable is issued. The balance sheet of the corporation will now be:

Assets		*Liabilities and Proprietorship*	
Cash	$5,000	Notes Payable	$ 1,000
Merchandise	6,000	Capital Stock	10,000
	$11,000		$11,000

If merchandise which cost $3,000 were sold for $4,500 cash, out of which expenses of $500 were paid, the balance sheet would be:

Assets		*Liabilities and Proprietorship*		
Cash	$9,000	Notes Payable		$ 1,000
Merchandise	3,000	Proprietorship		
		Capital Stock	$10,000	
		Surplus	1,000	11,000
	$12,000			$12,000

A surplus of $1,000 has resulted from the profits of the enterprise, and the stockholders may withdraw assets to that amount by declaring and paying a dividend. But they are not permitted to withdraw more than $1,000.

Valuation Reserves. Certain terms used in accounting cause the beginner some difficulty. It has been explained that the portion of the costs

[1] This rule is modified in some states.

of buildings, machinery, and furniture and fixtures that apply to services to be received in future accounting periods is shown on the balance sheet as an asset. For example, if it is estimated that $6,000 of the $10,000 that a building cost is to be deducted from the revenues of future accounting periods, this $6,000 would be listed on the balance sheet as an asset. The amount of the asset is shown not at $6,000 but at $10,000 less $4,000 as follows:

Buildings	$10,000	
Less: Reserve for Depreciation of Buildings	4,000	$6,000

The term *Reserve for Depreciation of Buildings* is new to the reader, and would be much clearer if it were replaced by some such term as *Allowance for Depreciation* or *Estimated Depreciation* and the amount shown on the balance sheet as follows:

Buildings	$10,000	
Less: Estimated Depreciation of Buildings.	4,000	$6,000

The term *Reserve for Depreciation* means "Estimated Depreciation." Nothing is reserved. It is not cash or any other asset. It is simply a reduction of an asset.

One may ask why the term is used and why the cost is shown in this way on the balance sheet. The term is a carry-over from the days when no attempt was made to connect depreciation with specific assets but a portion of the proprietorship was reserved for depreciation. There are two reasons why the costs of buildings and equipment are shown at the amount of the original cost less the estimated depreciation. First, the depreciation is only an estimate; the $6,000 might not be correct. Second, the purpose of the statement is to provide information, and more information is provided if the original cost less the estimated depreciation is presented.

Another example of the use of such terminology is the term *Reserve for Doubtful Accounts*. On the balance sheet, accounts receivable are shown as follows:

Accounts Receivable	$7,500	
Less: Reserve for Doubtful Accounts	200	$7,300

The meaning is similar to that explained before:

Accounts Receivable	$7,500	
Less: Estimated Bad Accounts	200	$7,300

Of the accounts receivable on the books of an enterprise, some will usually be bad; which ones are not known. If certain accounts were known to be bad, these accounts should not be listed as assets. But of the accounts thought to be good, experience has shown that some will not be collectible, and a deduction is made from the amount of the accounts receivable for

the estimated amount of these uncollectible accounts. If the accounts receivable were shown on the balance sheet at their face value one would be justified in assuming none was bad. The deduction draws attention to the fact that some will be bad and that an estimate has been made of the amount.

The only assets shown in this way on the balance sheet are those which depreciate or become depleted and the receivables. These so-called reserves are sometimes called *valuation reserves*—they reduce the values of assets. This term is also a poor one, for the balance sheet does not show valuations.

Reserves should not be confused with funds. A reserve never represents a fund of cash, securities, or the like. The term *fund* is applied to the segregation of cash or securities for some particular purpose.

The Classified Balance Sheet. The two types of assets and the liabilities discussed in this chapter may be classified in various ways in order to make information more readily available to those who use the balance sheet. The following balance sheet presents a common classification of the assets and the liabilities:

G. Hamson

Balance Sheet

December 31, 1944

Assets

Current Assets			
Cash		$4,200	
Notes Receivable		1,500	
Accounts Receivable	$5,600		
Less: Reserve for Doubtful Accounts	300	5,300	
Inventory		2,600	$13,600
Prepaid Expenses			
Unexpired Insurance		$100	
Sales Supplies		200	300
Fixed Assets			
Land		$3,000	
Buildings and Equipment	$15,000		
Less: Reserve for Depreciation	8,000	7,000	10,000
			$23,900

Liabilities and Proprietorship

Current Liabilities		
Notes Payable	$1,000	
Accounts Payable	3,000	$ 4,000
Fixed Liabilities		
Mortgage (Matures Jan. 1, 1950)		5,000
Geo. Hamson, Proprietorship		14,900
		$23,900

Classified as current assets are cash and those assets that will produce cash as the business is operated and also those assets that can be converted

into cash within a reasonable time, without disturbing the operation of the enterprise. Classified as current liabilities are those liabilities that must be paid in cash within a short time, usually one year.

The basis for the classification of assets will be discussed in more detail in Chapter XVI.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What are the two major types of assets given in this chapter?

2. Might you say that assets of the first type are in any way connected with services?

3. Carefully distinguish between the two types of assets.

4. How would you classify each of the following assets?

Investment in U. S. Government bonds	Accounts receivable
Buildings	Machinery
Land	Mortgage receivable
Cash	Inventory of merchandise
	Advertising paid in advance.

5. What is a note receivable? An account receivable?

6. Is there any advantage to a seller in accepting a note receivable instead of selling the goods on open account?

7. (a) Legislation was passed requiring a copper smelter to construct a special plant to purify the smoke from its furnaces. Would you show the cost of $250,000 as an asset?

(b) The City Utility Co. abandoned part of its facilities. These facilities were recorded on the books at a net amount of $500,000. Should this amount be considered to be an asset?

(c) The Biltmore Corporation had a 25-year lease on a location, which provided for annual payments of $10,000 a year. The manager of this company stated that the lease was its most valuable asset. Would you show this lease as an asset on the balance sheet?

8. Define a liability.

9. What is the proprietorship of a business?

10. If you knew the amount of the assets and liabilities, could you determine the amount of the proprietorship?

11. Explain why the amount of the proprietorship may be considered to be the difference obtained by deducting the amount of the liabilities from the amount of the assets.

12. Does a reserve for depreciation account represent a fund for the replacement of an asset?

13. How are reserves for depreciation shown on the balance sheet?

14. How is the reserve for doubtful accounts presented on the balance sheet?

15. What is a corporation?

16. What is the capital stock of a corporation?

17. What is the surplus of a corporation?

18. What is a fund?

19. (a) If the assets of the A B Company are $25,000 and the liabilities $10,000, determine the proprietorship.

(b) If the liabilities are $15,000 and the proprietorship $20,000, determine the total assets.

(c) If the assets are $75,000 and the proprietorship $24,000, determine the liabilities.

20. Determine the proprietorship from the following:

Cash, $5,500.
Accounts receivable, $2,500.
Accounts payable, $1,600.
Notes payable, $500.
Merchandise inventory, $2,000.

LABORATORY PROBLEMS

1. (a) Make up a balance sheet as of December 31, 1943, for The Kay Meat Market from the following:

Cash, $240.
Furniture and fixtures, $1,200
Notes payable, $1,000.
Office supplies on hand, $75.
Merchandise inventory, $980.
Store building, $4,500.

(b) Make up a balance sheet as of December 31, 1943, for The Purity Store from the following:

Cash, $3,300.
Inventory, $4,200.
Accounts receivable, $4,600.
Supplies on hand, $35.
Buildings and equipment, $6,000.
U. S. Government bonds, $4,000.
Notes payable, $1,500.
Mortgage payable, $3,000.

(c) Make up a balance sheet from the following data using your own name and the date as of December 31 of last year:

Cash, $890.25
Inventory, $1,650.45
Prepaid (unexpired) Insurance, $90.
Land, $3,000.
Buildings, $9,500.
Furniture and fixtures, $1,645.80
Delivery equipment, $845.
Accounts-payable, $1,500.

2. Make up a classified balance sheet for The Intermountain Store as of December 31, 1943, from the following data:

Bank balance in the Traders' Trust Co., $3,455.35
Currency on hand, $135.50
Checks to be deposited, $135.65
Postage stamps, $55.60

Accounts receivable, $6,575.45
Estimated doubtful accounts, $324.50
Merchandise on hand, $8,458.95
Office stationery, $65.70
Sales supplies, $87 60
Unexpired insurance, $84.50
Land, $5,000.
Buildings, $12,568.60
Estimated depreciation of buildings, $3,452.40
Furniture and fixtures, $2,384.75
Estimated depreciation of furniture and fixtures, $985.25
Accounts payable, $7,655.30

3. You were hired to make an audit of the records of The Elmsley Store. Your investigation revealed the following data from which you are to make up a classified balance sheet as of December 31, 1942:

Deposit in the First National Bank, $1,253.10
Cash on hand, $65.40
Merchandise on hand, $3,262.42
Inventory of supplies, $66.70
The total of the customers' accounts was $8,932.15, of which it was estimated that 3 per cent would be uncollectible.
Notes receivable, $1,500.
The Elmsley Store held title to the building it occupied which had been purchased exactly 10 years previously for $25,000; the life of the building when purchased was estimated to be 40 years, and the scrap value so indeterminable that it was disregarded in computing the depreciation. The building was subject to a mortgage of $10,000, on which interest of $300 for 1942 was due on January 1, 1943.
The Elmsley Store owned furniture and fixtures purchased exactly 5 years previously for $1,450; the estimated life of the furniture and fixtures was 10 years, at which time they would have no resale value.
The store owned U. S. Government bonds which had cost $5,000 and which would now sell for that amount.
Insurance premiums paid in advance, $115 30
Accounts payable, $3,250.95
Notes payable, $2,000.
Capital stock, $25,000.

4. (a) Prepare a balance sheet for W. J. Curtis and A. M. Hart, partners, each of whom has an equal share in the proprietorship of a business with assets and liabilities as follows on June 30, 1942:

Cash, $2,300.
Inventory, $2,800.
Notes receivable, $1,000.
Supplies on hand, $450.
Delivery equipment, $1,300.
Reserve for depreciation of delivery equipment, $845.
Accounts payable, $1,500.

(b) The Tru Blu Retail Store had assets of $25,000, liabilities of $5,000, and capital stock of $10,000 on December 31, 1942. Make up a condensed balance sheet as of that date.

5. Make up a classified balance sheet for The Northeast Wholesale Co. as of December 31, 1942, from the following:

Cash, $25,896.45
Merchandise, $38,440.25
Land, $10,000.
Accounts receivable, $42,545.60
Buildings and equipment, $40,696.50
Supplies on hand, $465.90
U. S. Government bonds, $10,500.
Delivery equipment, $6,945 60
Accounts payable, $14,565.40
Bonds payable, $35,000 [Maturity, May 1, 1960].
Reserve for depreciation of delivery equipment, $1,630.10
Reserve for doubtful accounts, $2,245.10
Capital stock, $50,000.
Reserve for depreciation of buildings, $5,630.90
Surplus, $66,418 80

6. The Payday Store started business on June 1, 1942, with $6,000 cash. During 1942 it sold merchandise for $16,000 cash and purchased merchandise for $15,000 cash; merchandise which cost $1,500 was on hand on December 31, 1942. A delivery truck was purchased on June 5, 1942, for $800 cash; depreciation for the remainder of 1942 was estimated to be $100. Insurance premiums of $60 were paid for one year from June 1, 1942. Rent of $800 was paid for the period June 1 to January 31, 1943. Store fixtures were purchased on June 5 for $1,500; cash of $500 was paid, a 6-month noninterest-bearing note for $500 and a one-year noninterest-bearing note for $500 were given in payment; estimated depreciation of the fixtures from June 1 to December 31, 1942, was $75. Sundry expenses of $300 were paid. You are required to make up a balance sheet as of December 31, 1942, and a statement of profit and loss for the period June 1 to December 31, 1942.

7. Mr. Norman Burns started a business on May 1, 1944, by investing $3,500 cash and turning over to the business merchandise which cost him $2,000. The following were the transactions for May:

Merchandise purchased on credit from the Fargo Wholesale Co., $3,000; on hand May 31, $2,300.
A delivery truck was purchased on credit from the Auto Sales Agency, $1,200 (the truck was purchased on May 1); truck had a 4-year life after which it would be worthless.
Merchandise was sold on credit to the Dinwiddy Stores, $3,900.
Land was purchased on credit from the Northern Realty Co., $2,000.
Supplies were purchased for cash, $75; on hand May 31, $50.
Insurance was purchased on May 1 for cash, $72; one year policy.
Rent for May was paid, $200.
Salaries for May were paid, $300.
Heat and light for May were paid, $50.
Sundry expenses were paid, $40.
Disregard bad debts.

Make up a balance sheet as of May 31, 1944, and a statement of profit and loss for May, 1944.

8. Make up a classified balance sheet, and a statement of profit and loss showing the selling and general and administrative expenses, for Wm. Hurtz from the following data taken from the books on December 31, 1942:

Cash	$ 6,285.40
Accounts Receivable	12,532.20
Reserve for Doubtful Accounts	645.20
Accounts Payable	5,219.70
Notes Receivable	3,500.00
Sales	75,215.30
Advertising	1,200.00
Office Equipment	2,267.50
Prepaid Insurance	165.10
Insurance Expired	73.80
Supplies on Hand	265.20
Sales Supplies Used	193.60
Inventory, Jan. 1, 1942	3,393.80
Purchases	57,316.85
Freight In	984.20
Land	5,000.00
Buildings and Equipment	30,500.00
Reserve for Depreciation of Buildings and Equipment	10,486.10
Reserve for Depreciation of Office Equipment	985.60
Depreciation of Office Equipment	338.50
Depreciation of Buildings and Equipment	798.50
Bad Debts	752.15
Sales Discounts	683.70
Office Salaries	3,351.15
Sales Salaries	5,219.70
Wm. Hurtz, Proprietorship, Jan. 1, 1942	42,269.45

On December 31, 1942, the cost of the inventory on hand was $3,586.60.

9. Make up a classified balance sheet as of December 31, 1942, and a statement of profit and loss for the year 1942 showing the selling and general administrative expenses, for The Betterway Wholesale Co. from the following:

Balances of Ledger Accounts on December 31, 1942

Cash	$10,893.20
Accounts Receivable	25,684.10
Notes Receivable	5,000.00
Reserve for Doubtful Accounts	1,815.60
Bad Debts	1,145.60
Sales	249,842.50
Sales Returns and Allowances	1,543.20
Sales Discounts	1,943.50
Inventory, Jan. 1, 1942	31,592.30
Purchases	202,433.75
Freight and Cartage In	2,314.20
Insurance on Merchandise while in Transit	653.50
Accounts Payable	13,624.25
Mortgage Payable, Maturity, June 1, 1960	20,000.00
Delivery Salaries	4,453.90
Prepaid Insurance	398.55
Insurance Expired	212.25
Gasoline and Oil Used	2,171.65
Traveling Expenses	3,982.45
Sales Commissions	5,347.05
Advertising	3,846.35
Delivery Equipment	4,234.80
Depreciation of Delivery Equipment	896.15
Reserve for Depreciation of Delivery Equipment	2,415.20
Office Equipment	1,625.40
Reserve for Depreciation of Office Equipment	915.20
Depreciation of Office Equipment	147.75

Sales Salaries	18,615.25
Office Salaries	5,320.80
Buildings	55,600.00
Depreciation of Buildings	1,943.95
Reserve for Depreciation of Buildings	16,316.50
Land	6,300.00
Sales Supplies on Hand	943.25
Sales Supplies Used	2,453.65
Office Supplies on Hand	115.45
Office Supplies Used	234.40
Betterway Wholesale Co , Proprietorship	?

The cost of the inventory on hand December 31, 1942, was $35,516.75.

CHAPTER IV. ACCOUNTS: ASSET AND LIABILITY TRANSACTIONS

The Need for Records. In order to provide information on costs, revenues, assets, liabilities, and proprietorship, records are necessary. In some instances no formal system of accounts is necessary to provide this information. Bookkeeping firms that periodically make up statements for small stores, service stations, and similar enterprises get their information from memorandum records kept by the proprietors and from these records they prepare a balance sheet and a statement of profit and loss.

Ordinarily the business enterprise needs a formal system of accounts. Otherwise it would be difficult to prepare reasonably accurate statements, and, what is more important, no continuous and complete record of the business transactions would be provided. A formal system of records should provide information concerning the changes in:

Each asset	Each source of revenue
Each liability	Each expense
The proprietorship	The profit or loss.

An Account. *An account is a record of an asset, a liability, the proprietorship, a source of revenue, or an expense.* For a particular asset like cash it provides a record of the amount on hand at a certain time, and the additions to and the deductions from that amount during a given period of time. This information is provided in such a way that the net amount of the account can be obtained with little difficulty. For example, the amount of the cash on January 1 was \$5,000, cash of \$20,000 was received during January, and \$18,000 of cash was paid out during January. The Cash account would provide this information and enable the amount of the cash on hand at any time to be readily determined.

Let us consider the following form which is often used for accounts:

Account Title

MONTH	DAY	Explanation	REFERENCE	Amount	MONTH	DAY	Explanation	REFERENCE	Amount

This form of an account has two sides, which are exactly alike, separated by three (sometimes two) vertical middle lines. Columns are provided on each side for the month, the day, an explanation, reference to the source of the information, and the amount. They are called:

The Month column	Reference column, or Folio column
The Day column	The Amount column.
The Explanation column	

These columns are all self-explanatory except that headed Reference or Folio. This column is provided for reference to the source of the data. If the data were originally recorded in another book, some symbol such as a letter would be entered in this column, and ordinarily the page number of the book would be shown also.

An account is said to be *opened* when the name of the account, called the *title* or *caption,* is written above the two horizontal lines and an amount is entered. When an account is opened for Notes Receivable, the title or caption of the account is written above the two horizontal lines as illustrated below.

The first entry is made on the first line of an account. The month and the day are entered. An explanation, if any, is then written in, but explanations are included in very few accounts. This is followed by the amount. The year is entered when the first entry is made in an account. One method of recording the year is to place it, in small figures, above the month on the same line as that on which the entry is made.

The following account for Notes Receivable illustrates this procedure:

Notes Receivable

1944						*1944*					
May	8	W. E. Jones, 3 months, 6%		3,000	00	Aug.	8	W. E. Jones note of May 8		3,000	00
Dec.	5	A. R. Bert, 60 - day, 6%		1,000	00						
1945											
Jan.	3	E. B. Jones, 90 - day, 6%		500	00						

The first entry was made in the account for a transaction of May 8, 1944. When this entry is made the year, 1944, is entered on the first line of the Date column just above the month. Each addition made to the Notes Receivable is entered on the first available line. When the first entry is made on the right-hand side of the account, the year is again entered on the first line above the month. An entry made in the account

on January 3, 1945, would be made on the first available line and the year written above the month.

Amounts entered on the right-hand side of the Notes Receivable account are amounts to be subtracted from the amounts on the left-hand side. *Amounts to be subtracted are not entered on the right-hand side of all accounts, but they are for asset accounts.* In the preceding account nothing was entered in the Reference column. Ordinarily a page number or reference to some other book would be entered in this column, but this will be omitted for the present.

Debit and Credit. *The left-hand side of all accounts is called the debit side, the right-hand side the credit side.* An entry made on the left-hand side of any account is called a *debit,* and one made on the right-hand side is called a *credit.* When an entry is made on the left-hand side of an account a debit is said to be made to the account. Or we may speak of "debiting" the account. The words "charge" and "charging" are often used synonymously with the words "debit" and "debiting." When an entry is made on the credit side of an account the account is said to be credited. And we sometimes speak of "crediting" an account. The abbreviations *Dr.* and *Cr.* are used for debit and credit, respectively.

As stated before, the terms debit and credit designate the left-hand and right-hand side of accounts, respectively. This is true not only for asset accounts but for *all* accounts. *The left-hand side of an asset account, a liability account, the proprietorship account, an expense account, or a revenue account is called the debit side.*

The Balance of an Account. The difference between the two sides of an account is called the *balance of the account.* If the total of the Amount column on the debit side of an account is the greater, the account is said to have a debit balance, and if the total of the Amount column on the credit side is the greater, the account is said to have a credit balance. The following Cash account has a debit balance of $5,400.

Cash

1942						*1942*					
Jan.	1	Balance	√	2,600	00	Jan.	8			600	00
	15			1,200	00		17			500	00
	18			500	00		26			300	00
	27			1,700	00					1,400	00
	29	(5,400)		800	00						
				6,800	00						

The total of the debits is $6,800; the total of the credits is $1,400; the difference is $5,400.

When the balance of an account is determined during an accounting period, small pencil totals, sometimes called *footings*, are written in under

the last amount in each column. The 6,800 and the 1,400 in the preceding illustration are the totals of these columns. The difference between these totals, that is, the balance of the account, is written in pencil to the left of the greater Amount column. This amount is placed in parentheses or is "circled" to identify it as the balance of the account. If this balance is a debit balance, it will be written on the debit side of the account on the same line as the last amount on that side of the account. The (5,400) in the Cash account is the balance of this account. If the balance is a credit, it will be written in on the credit side of the account.

An account which has a balance is sometimes called an *open account*. One in which entries have been made but which has no balance is called a *closed account*.

Periodically, most of the asset, liability, and proprietorship accounts are ruled and a balance carried forward. The Cash account illustrated in this section would appear as follows after being balanced:

Cash

1942						*1942*					
Jan.	1	Balance	✓	2,600	00	Jan.	8			600	00
	15			1,200	00		17			500	00
	18			500	00		26			300	00
	27			1,700	00		31	Balance	✓	5,400	00
	29			800	00						
				6,800	00					6,800	00
Feb.	1	Balance	✓	5,400	00						

The balance of the account is entered on the side with the smaller total to bring the total of that side up to the larger total. The amount $5,400 was entered on the credit side of the preceding Cash account, and the two sides now have the same totals. This total is entered on the line below the last amount on the side containing the greatest number of entries. It is then entered on the same line on the opposite side. A single line is drawn above these totals. Double horizontal lines are drawn across all columns but the columns for explanation. These lines are drawn on the line immediately below the totals. The new balance is then entered as of the first day of the next accounting period and check marks are placed in the Reference columns to indicate that these amounts were balancing amounts. A debit balance is entered on the debit side, a credit balance on the credit side. This method of ruling accounts is followed in order that both the debits and credits of the following period will be started from the same line. It would be undersirable to have the debits start from one line and the credits from another.

When there is only one amount in an account, as in the following

examples, the accounts are not balanced, this one amount being the balance of the account, and little would be gained by the balancing procedure.

Land

1942 Jan.	1			15,000	00						

Notes Payable

						1942 Aug.	8			1,000	00

If the same amount appeared as both a debit and a credit in an account and there were no other entries, double lines would be drawn under each amount, thus;

Notes Receivable

1942 Nov.	3			1,000	00	*1942* Dec.	3			1,000	00

T Accounts. Accounts may be opened in skeleton form for illustrative and problem purposes. An account made up in this form is often called a *T account.* The following is an example of a Cash account in T account form:

Cash

5,000	2,000
3,000	
4,000	

The account form is that of a T, a vertical and a horizontal line, the horizontal line "crossing" the T.

This simple form for accounts will be used later in this volume for some illustrations when it is desired to economize on space. For the same reason students will be requested to use it in solving some of the problems.

It should be remembered, however, that this form is never used in the formal books of accounts.

Transferring an Account Balance to Another Page. When the entries fill either the debit or credit column of an account, the balance of the account or the totals of both the debits and credits should be transferred to another page. If the balance is transferred to the new page, this procedure is often spoken of as "carrying a balance forward" to the new page.

The following Cash account illustrates an account, the balance of which has been transferred to another page:

Cash

1942						*1942*					
June	1	Balance	√	1,000	00	June	3			200	00
	12			500	00		16			100	00
	13			400	00		18			300	00
	24			100	00		23			600	00
	25			300	00		25	Balance to page 8		1,100	00
				2,300	00					2,300	00

An explanation such as "balance to page XX" is given opposite the amount carried forward. In this example the balance of the account, which is a debit balance of $1,100, is entered on the credit side of the account to close the account on this page, and the explanation "balance to page 8" is given.

On page 8 the Cash account is opened and the balance entered on the proper side. In this illustration the balance of $1,100 is entered on the debit side, and in the explanation column the number of the page from which this balance was transferred is entered. The account on page 8 would appear as follows:

Cash Page 8

1942											
June	25	Bal. from page 1	√	1,100	00						

If the totals of the debit and credit sides of the Cash account on page 1 were carried forward, the Cash account on page 1 would not show the balance of the account, but the total of the debit column and the total of the credit column would be entered on the last line of the page. In the space for the explanation the new page number would be shown opposite each total as follows:

Cash Page 1

1942						*1942*					
June	1			1,000	00	June	3			200	00
	12			500	00		16			100	00
	13			400	00		18			300	00
	24			100	00		23			600	00
	25			300	00						
	25	To page 8		2,300	00		25	To page 8		1,200	00

The new account would be opened on page 8, where the total of the debits in the old accounts would be entered on the debit side and the total of the credits would be entered on the credit side. The new account is now illustrated:

Cash Page 8

1942 June	25	Total from page 1	√	2,300	00	*1942* June	25	Total from page 1	√	1,200	00

The Ledger. A ledger is a group of accounts ordinarily opened on pages of a bound book, a loose-leaf book, or on cards. The accounts needed for the preparation of the balance sheet and the profit and loss statement are opened in a ledger called the *general ledger*. In the remainder of this volume the term *ledger* will be used to refer to the general ledger.

As the reader will learn later, there may be groupings of accounts other than those in the general ledger. Such groupings of accounts are called *subsidiary ledgers*, the most widely used of which will be discussed later in this volume.

Asset Accounts. When an account is opened for an asset the amount is entered on the left-hand side of the account, that is, on the debit side. All additions are entered on the debit side and subtractions are entered on the right-hand or credit side of the account. That is, *increases in assets are recorded on the debit side of accounts, and decreases in assets are recorded on the credit side.*

The Cash account on page 50 is an illustration of a typical asset account. The balance of this account on January 1 was $2,600. The additions were entered on the left-hand side and the subtractions on the right-hand side. The balance of the account on January 31 was $5,400.

Other accounts are opened to provide a record of various assets. Common asset accounts are: Cash, Notes Receivable, Accounts Receivable, Delivery Equipment, Office Equipment, Land, Buildings, and Prepaid (Unexpired) Insurance.

Liability Accounts. When an account is opened for a liability the amount is placed on the right-hand side of the account. This is on the side opposite to that on which the amount of an asset is placed. All additions to a liability are recorded on the right-hand side of the account, and deductions from liabilities are placed on the left-hand side of the account. That is, *increases in liabilities are entered on the credit side of accounts, while decreases in liabilities are entered on the debit side of accounts.* The following account for Notes Payable is a liability account.

Notes Payable

1942						*1942*					
Jan.	30			1,000	00	Jan.	1	Balance	√	1,000	00
							12			500	00
							20	(2,500)		2,000	00
										3,500	00

The balance of this account on January 1 was a credit balance of $1,000. On January 12 an addition of $500 was made to the account, and on January 20 an addition of $2,000 was made. On January 30 the account was decreased $1,000. The balance on January 30 was a credit of $2,500.

Most liability accounts, like asset accounts, are periodically balanced with a balance carried forward. If the preceding Notes Payable account were balanced on January 31, it would appear as follows:

Notes Payable

1942						*1942*					
Jan.	30			1,000	00	Jan.	1	Balance	√	1,000	00
	31	Balance	√	2,500	00		12			500	00
							20			2,000	00
				3,500	00					3,500	00
						Feb.	1	Balance	√	2,500	00

The smaller total, the debit total, is increased to equal the credit total of $3,500 by entering $2,500 on the debit side. The total of $3,500 is entered on the first available line in the column containing the greater number of items, which is the credit column. This same total is then entered on the same line in the other column, which in this case is the debit column. A single line is drawn above the $3,500 totals, and a double line is drawn immediately below these figures across all colums but the columns for the explanation. The date of the first day of the next month is then entered on the credit side, the balance of $2,500 is entered in the credit column, and the check marks are placed in the Reference columns to indicate that these amounts were "balancing" entries for which there is nosource to refer.

Unless a business has a considerable number of notes payable transactions, all these transactions are entered in the one account Notes Payable, the balance of which will show the liability on notes payable.

When the liability is to a person, and is not represented by a note, an account is opened under that person's name so that the amount of the liability to that person may be determined easily. Although one account entitled Accounts Payable would be sufficient for balance sheet purposes, somewhere in the records an account or a substitute for an account must be maintained for each creditor.

Accounts are opened for other liabilities such as a mortgage payable, income taxes payable, etc.

The Proprietorship Account. The proprietorship account, or accounts, show the direct and indirect investments of the owners in the business. In an individual proprietorship the amount is entered on the right-hand side or credit side of the account. Additions are also entered on this side of the account, and deductions are entered on the left-hand or debit side of the account. To summarize: *All increases in the proprietorship account are recorded by credit entries, all decreases in proprietorship by debit entries.*

The following is the A. B. Smith, Proprietorship account:

A. B. Smith, Proprietorship

						1942					
						Jan.	1	Balance	√	10,000	00
							25			2,000	00

The balance on January 1 was on the credit side of the account. The addition of $2,000 on January 25 was recorded on the credit side. Any deductions would be recorded on the debit side. This account would be balanced as follows:

A. B. Smith, Proprietorship

1942						*1942*					
Jan.	31	Balance				Jan.	1	Balance	√	10,000	00
		fw'd	√	12,000	00		31			2,000	00
				12,000	00					12,000	00
						Jan.	31		√	12,000	00

Rationalization of Debits and Credits. The exact origin of the debit and credit procedure is not known, but it dates back to Italians of the fifteenth century or earlier. About the time Columbus discovered America the Italian mathematician Pacioli published a treatise on mathematics that presents principles of bookkeeping surprisingly similar to those of today. These principles undoubtedly were developed before that time.

The fundamentals of bookkeeping probably were worked out by someone with some knowledge of mathematics who recognized either that each transaction affected at least two accounts, or the following balance sheet truism:

$$\underset{\text{Assets}}{A} = \underset{\text{Liabilities}}{L} + \underset{\text{Proprietorship}}{P}$$

This balance sheet truism might first have been recognized from the fact that the computation of one's wealth is made by deducting liabilities from assets. In other words: $A - L = P$. By a simple algebraic transposition,

$A - L = P$ becomes $A = L + P$. Or someone might have recognized that assets can only be obtained by borrowing, investment, or gift, therefore $A = L + P$.

From this truism it is obvious that an increase in the total assets must be accompanied by an increase in either the liabilities or proprietorship or both. A decrease in the total assets would be accompanied by a decrease in the liabilities or the proprietorship or both.

An increase in the total liabilities would be accompanied by an increase in the total assets or a decrease in proprietorship, or both. A decrease in the liabilities would be accompanied by a decrease in the total assets or by an increase in the proprietorship, or both.

This same reasoning applied to accounts enables us to set up a system of accounts in which equal debits and credits are made for each transaction:

$$A = L + P$$

Assets		Liabilities		Proprietorship	
+	−	−	+	−	+

From this equation and setup of accounts it should be obvious that an increase in an asset without a decrease in another asset or an increase in a liability would result in an increase in proprietorship. Any increases in a liability without a decrease in another liability or an increase in an asset would result in a decrease in proprietorship. To illustrate debits and credits to asset and liability accounts we shall analyze a few transactions.

The purchase of a building for \$5,000 cash would result in an increase in the asset Building and in a decrease in the asset Cash. This would be recorded by a debit of \$5,000 to the Building account and a credit of \$5,000 to the Cash account.

The purchase of merchandise for \$1,000 on credit from Martin Bros. would increase the asset account Merchandise and increase the liability account Martin Bros. This would be recorded by a debit of \$1,000 to an account called Purchases and a credit of \$1,000 to the account Martin Bros. The debit is made to Purchases instead of to Merchandise in order to segregate the cost of merchandise purchased during the period from the cost of that on hand at the beginning of the period. This will be explained in more detail in Chapter VIII.

A note payable for \$1,000 given to Martin Bros. to transfer the liability from an account liability to a note payable liability would decrease the liability account Martin Bros. and increase the liability account Notes Payable. A debit would be made to the Martin Bros. account and a credit to the Notes Payable account.

Illustration of the Use of Accounts. In order to illustrate the use of accounts the transactions of Arnold Hansen are analyzed for the month of October.

On October 10, 1944, Mr. Hansen deposited $6,000 in a bank account for the Arnold Hansen Store. On this date the business had an asset, cash, of $6,000, and the proprietorship interest in the business was $6,000. Since assets are entered on the left-hand side of accounts and the amount of the proprietorship on the right-hand side, the accounts would be opened as follows:

Cash

1944 Oct.	10			6,000	00						

Arnold Hansen Store, Proprietorship

						1944 Oct.	10			6,000	00

Entries will be made to illustrate the following types of transactions:

An increase in one asset and a decrease in another asset, illustrated by the purchase for cash of a delivery truck, a typewriter, and merchandise.

An increase in an asset and an increase in a liability, illustrated by the purchase of merchandise on credit.

A decrease in a liability and a decrease in an asset, illustrated by the payment of cash to a creditor.

A decrease in one liability and an increase in another liability, illustrated by the issue of a note payable to a creditor.

On October 15 a delivery truck was purchased for $1,500 cash, and on October 20 a typewriter was purchased for $150 cash. These transactions were recorded as shown in the following accounts:

Cash

1944 Oct.	10			6,000	00	*1944* Oct.	15			1,500	00
							20			150	00

Delivery Equipment

1944 Oct.	15			1,500	00						

Office Equipment

1944 Oct.	20			150	00						

The purchase of the truck results in an increase of $1,500 in the asset, delivery equipment, and in a decrease of $1,500 in the asset, cash. The amount, $1,500, is entered on the debit side of the Delivery Equipment account and on the credit side of the Cash account. The purchase of the typewriter is exactly the same type of transaction. The asset, office equipment, is increased and the asset, cash, is decreased. Hence a debit of $150 is entered in the Office Equipment account to record the increase, and a credit of $150 is entered in the Cash account to record the decrease.

On October 25, Mr. Hansen purchased merchandise for $1,000 cash. The Purchases account is increased $1,000 and the Cash account is decreased $1,000. After the entry is made the accounts appear as follows:

Cash

1944						*1944*					
Oct.	10	(3,350)		6,000	00	Oct.	15			1,500	00
							20			150	00
							25			1,000	00
										2,650	00

Purchases

1944											
Oct.	25			1,000	00						

(The merchandise on hand at the beginning of the period is recorded in an account called Merchandise Inventory, or Inventory.)

On October 26 merchandise was purchased from Eastern Grocers for $800 on credit. The effect of this transaction is an increase of $800 in the Purchases account and an increase in the liability account, Eastern Grocers. The $800 is entered in the following accounts:

Purchases

1944											
Oct.	25			1,000	00						
	26			800	00						
				1,800	00						

Eastern Grocers

						1944					
						Oct.	26			800	00

A payment of $500 on October 29 to Eastern Grocers would reduce the Cash account $500 and would reduce the liability account Eastern Grocers $500. The reduction in cash is recorded as a credit, but *the reduction in the liability is recorded by a debit to the liability account.* An entry

is now made to debit Eastern Grocers account $500 and credit the Cash account $500 and the accounts appear as follows:

Cash

1944						*1944*					
Oct.	10			6,000	00	Oct.	15			1,500	00
							20			150	00
							25			1,000	00
							29			500	00
										3,150	00

Eastern Grocers

1944						*1944*					
Oct.	29			500	00	Oct.	26			800	00

On October 30 a Note Payable for $300 was given to Eastern Grocers in settlement of the balance due them. This transaction reduces the liability Eastern Grocers and increases the liability notes payable $300. Therefore, a debit is made to the Eastern Grocers account and a credit to the Notes Payable account.

Eastern Grocers

1944						*1944*					
Oct.	29			500	00	Oct.	26			800	00
	30			300	00						

Notes Payable

						1944					
						Oct.	30			300	00

The ledger accounts will now appear as follows:

Cash

1944						*1944*					
Oct.	10	(2,850)		6,000	00	Oct.	15			1,500	00
							20			150	00
							25			1,000	00
							29			500	00
										3,150	00

Delivery Equipment

1944											
Oct.	15			1,500	00						

Office Equipment

1944											
Oct.	20			150	00						

Eastern Grocers

1944						*1944*					
Oct.	29			500	00	Oct.	26			800	00
	30			300	00						

Notes Payable

						1944					
						Oct.	30			300	00

Arnold Hansen, Proprietorship

						1944					
						Oct.	10			6,000	00

Purchases

1944											
Oct.	25			1,000	00						
	26			800	00						
				1,800	00						

The Trial Balance and Balance Sheet. A trial balance is a list of the balances of the accounts in the ledger. Since open accounts have either debit or credit balances, the balances are listed in two columns, one for the debit balances and the other for the credit balances. The preparation of the trial balance is one step in the procedure of preparing the financial statements. For this reason the name of each account and its balance is listed. The trial balance for the Arnold Hansen Store on October 31 would be made up by making a list of the open accounts and their balances on that date. Such a trial balance made up from the accounts illustrated in the preceding section follows:

Arnold Hansen Store

Trial Balance
October 31, 1944

	Dr.	*Cr.*
Cash	$2,850.00	
Delivery Equipment	1,500.00	
Office Equipment	150.00	
Notes Payable		$ 300.00
Arnold Hansen, Proprietorship . . .		6,000.00
Purchases	1,800.00	
	$6,300.00	$6,300.00

Since equal debits and credits are made in the ledger, it should be obvious that unless errors were made the total of the balances of all accounts with debit balances should equal the total of the balances of all accounts with credit balances.

The trial balance serves not only as a starting point for further work in the preparation of financial statements, but as *prima facie* proof of the accuracy of the entries which were made. It is not an infallible proof of this part of the work, as it does not reveal entries made in the wrong account, or entries that offset one another. A trial balance may be made up at any time the entries in the ledger accounts have been made up to date.

The balance sheet made up from the foregoing trial balance for the Arnold Hansen Store would be:

Arnold Hansen Store

Balance Sheet
October 31, 1944

Assets		*Liabilities and Proprietorship*	
Cash	$2,850.00	Notes Payable	$ 300.00
Merchandise	1,800.00	Arnold Hansen, Proprietorship	6,000.00
Delivery Equipment	1,500.00		
Office Equipment	150.00		
	$6,300.00		$6,300.00

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Define an account.
2. When is an account said to be "opened"?
3. Explain how an asset would be entered in an account.
4. How are deductions from assets recorded?
5. What is meant by the balance of an account?
6. What is a debit? A credit?
7. When is an account said to be "closed"?
8. How are liabilities recorded in accounts?
9. How are deductions from liabilities recorded in accounts?
10. How would you rule the following account?

Ensley Machine Company

1944						1944					
June	25			1,565	40	June	8			1,565	40

11. What is the purpose of ruling accounts?
12. What is a ledger?
13. Would you open a separate account each time you received a note receivable?
14. Explain how you would make entries in a proprietorship account.
15. Explain the following equation: $A = L + P$.

16. Explain the effect of each of the following transactions on the equation:

Mr. C. E. Smith invested cash of $1,200 in a business
Merchandise is purchased for $600 cash
Merchandise is purchased for $500 on credit from Zeller Supply Company
A payment of $200 is made to Zeller Supply Company
A secondhand truck is purchased on credit for $600 from Reway Motors
A payment of $50 is made to Reway Motors
Land is purchased for $2,000; cash of $500 was paid and a note given for the balance.

17. What is the purpose of a trial balance?

18. Make up a trial balance from the following: Cash, $1,500; notes receivable, $1,000; notes payable, $800; accounts receivable, $2,500; accounts payable, $800; merchandise inventory, $1,600; land, $1,500; reserve for doubtful accounts, $300; investments, $3,000; supplies, $200; buildings and equipment, $6,500; A. B. Harris, Proprietorship, $15,900.

19. Make up a balance sheet from your trial balance of question 18.

LABORATORY PROBLEMS

1. (a) On the first line of a sheet of ledger paper open a Cash account and make the entries that would be made in this account as a result of the following transactions, each occurring on consecutive days starting with June 3, 1942:

R. B. Young invested $3,200 in the business. Merchandise was purchased for $300 cash. A salesman was paid a salary of $150 for June. Land was purchased for $800 cash. A sale was made for $50 cash. Collections from customers amounted to $100. A truck was purchased for $900 cash. Merchandise was purchased for $100 cash. Rent of $100 was paid. Insurance was purchased for $70 cash. Mr. Young withdrew $50 from the business.

Balance the account and rule it as of June 15.

(b) On the same ledger page as was used for part (a), open the following accounts and enter the debits and credits for July, 1942:

Notes Receivable: Debits—July 5, $200; July 20, $150; July 28, $175; credits—July 25, $200.
Delivery Equipment: Debits—July 7, $1,200.
J. R. Emerson: Debits—July 8, $75; credits—July 18, $75.

Balance and rule these accounts as of July 31.

2. Do parts (a), (b), and (c) on 1 sheet of ledger paper.

(a) Open an account for A. Greene and make the entries that would be made in this account for the following transactions:

The following sales were made on credit to A. Greene during May, 1943:

May 5	$15.50	May 18	$13.20
8	7.95	24	6.90
12	12.60	28	12.40

Cash was collected from A. Greene as follows:

May 11	$23.45
16	12.60
21	13.20

Balance and rule the account as of May 31.

(b) Open an account for the Palbo Wholesale Co. and make the entries in this account that would be made as a result of the following transactions for August, 1943:

Aug. 6 You purchased merchandise for $805.10 on credit from the Palbo Wholesale Co.
12 You purchased merchandise for $406.20 on credit from the Palbo Wholesale Co.
16 You paid the Palbo Wholesale Co. $805.10 cash.
18 You returned merchandise purchased for $50 from the Palbo Wholesale Co. The Palbo Wholesale Co. allowed you $50 credit.
26 You purchased merchandise on credit from Palbo Wholesale Co. for $300.
28 You gave Palbo Wholesale Co. a note payable for $306.20.

Balance and rule this account as of August 31, 1943.

(c) Open an account, Notes Payable, and enter the following debits and credits:

Debits: Jan. 5, 1943, $200; Jan. 20, 1943, $300.
Credits: Balance Jan. 1, 1943, $200; Jan. 8, 1943, $300; Jan. 12, 1943, $100.

Balance and rule this account as of January 31, 1943.

3. (a). On one sheet of ledger paper open the following accounts allowing the number of lines shown after each account:

Cash (9), Buildings (2), Delivery Equipment (2), Purchases (2), Notes Payable (5), Newboldt Stores (5), E. Hart, Proprietorship (5).

Enter the transactions given below for January, 1944, being sure to enter equal debits and credits for each transaction.

Transactions:

Jan. 6 1944 Mr. E. Hart invested $10,800 in a business.
8 1944 Mr. Hart purchased a building for $8,000 cash.
12 1944 A truck was purchased for $900, for which a 90-day, 6 per cent note payable for $900 was given to Berg Motors.
18 1944 Merchandise was purchased for $1,000 on credit from Newboldt Bros.
18 1944 Mr. E. Hart borrowed $1,000 from the First National Bank giving his 60-day, 5 per cent note.
20 1944 A check for $400 was mailed to Newboldt Bros. on account.
23 1944 Mr. Hart withdrew $75 cash for his personal use.
31 1944 A check for $200 was mailed to Newboldt Bros.

Balance and rule these accounts as of January 31.

(b) Prepare a trial balance as of January 31 on the other side of the sheet of ledger paper used for part (a).

4. (a) On one sheet of ledger paper open the following accounts, allowing the number of lines indicated for each account:

Cash (7)
Purchases (5)
Office Equipment (4)
Harmon Bros. (4)
Notes Payable (4)
A. Hurley, Proprietorship (3)

Enter the following transactions for October, 1943:

Oct. 6 Mr. Albert Hurley deposited $5,000 in the bank to the credit of A. Hurley.
8 Purchased merchandise from Harmon Bros. for $600 cash.
10 Purchased merchandise on credit from Harmon Bros. for $500.

12 Purchased merchandise from Harmon Bros. for $300, giving them a 90-day, 4 per cent note payable.
15 Purchased a typewriter for $100 cash.
18 Purchased an office desk, filing cabinet, and chairs for $75, $65, and $25, cash, respectively.
20 Paid Harmon Bros. $200 cash on account.
23 Gave Harmon Bros. a 60-day, 4 per cent note payable for $300.

(b) Show the balances of these accounts in pencil figures and on the other side of the sheet of ledger paper used for part (a) prepare a trial balance as of October 31.

5. In two vertical columns, one for debits and one for credits, enter the names of the accounts debited and credited in recording each of the following transactions:

Purchased merchandise for $400 cash.
Purchased merchandise for $500 on credit from Levy Bros.
Purchased merchandise for $800, giving a note payable.
Paid rent of $300 for the current month.
Advanced a salesman his salary of $150 for the following month (accounting period is one month).
Purchased land for $5,000, paying $1,000 cash and giving a 10-year mortage for the balance.
Paid a $500 note payable.
Collected $300 in payment of a note receivable.
Collected $48.60 from Wm. Brown, a customer.
Purchased a truck for $1,200; paid $400 cash, and signed a contract agreeing to pay Hillier Bros. the balance over 12 months.
Paid Harrison Supply $360.40 on account.

CHAPTER V. RECORDING REVENUE AND EXPENSE TRANSACTIONS

Revenue Accounts. When goods are exchanged or services rendered for a consideration, the consideration received is usually an asset such as cash, accounts receivable, or notes receivable, although at times a liability may be reduced. Since the consideration so received is either an asset or the reduction of a liability, it is recorded by a debit either to an asset account or to a liability account and a credit to a revenue account. If goods are sold for $500 cash the following debit and credit would be made:

Cash

May 16	500		

Sales

		May 16	500

If Wm. Howard, a radio repair man, repaired radios during June for which he collected $800 which he entered on his books on June 30, a debit of $800 would be made to the Cash account and a credit of $800 to the Radio Repair Revenue account, as follows:

Cash

June 30	800		

Radio Repair Revenue

		June 30	800

Thus we may say that *when goods are exchanged or services rendered for a consideration debits are made to record the consideration and credits are made to revenue accounts, and when the balance of a revenue account is to be decreased a debit is placed in the account.* This may be illustrated as follows:

Revenue

−	+

Obviously, a revenue account is not an asset. It simply shows the amount of the assets received or the amount that the liabilities are reduced when goods are exchanged or services rendered. Since the consideration is very seldom the reduction of a liability and since the reduction of a liability has the same effect (increases the net amount of assets) we shall describe revenue accounts as accounts which serve the purpose of providing management with knowledge of the amount of assets acquired through revenue transactions. The debits to record the assets acquired are made to different asset accounts such as Cash and customers' accounts, and the revenue accounts make available to the management the total of the assets so received. For example, a radio repair man rendered services as follows: to the Eastern Supply Co. for which he charged $90 which he did not collect immediately, to E. Jones for which he took a $100 note receivable, and to other customers from whom he received cash of $400. The entries to record these transactions would be made as follows:

Eastern Supply Co.	
90	

Radio Repair Revenue	
	90
	100
	400

Notes Receivable	
100	

Cash	
400	

The debits for the assets acquired are entered in the proper asset accounts in which debits for many other types of transactions will also be entered. But the total amount of the assets acquired through the exchange transactions is shown by the total of the revenue account.

Different revenue accounts may be opened to show the different sources of assets acquired through exchange transactions. For example, a Sales account and a Rent Revenue account may be opened if the business acquires assets both from the sale of goods and the rent of premises. The Sales account would show the amount of the assets acquired through the exchange of merchandise, and the Rent Revenue account would show the amount of assets acquired from the renting of premises. And, if desired, more than one sales account may be opened to show the amount of assets acquired from sales of different kinds of commodities. For example, a business selling radios and refrigerators would probably open such accounts as Sales of Radios and Sales of Refrigerators. The informa-

tion such accounts provide is almost indispensable to the management of an enterprise.

To understand better the nature of revenue accounts, let us consider the accounts of Mr. John Bright, a consulting engineer, which were as follows on June 1, 1944:

Cash			
June 1	2,850		

John Bright, Proprietorship			
		June 1	2,850

During June Mr. Bright rendered services for which he charged $625, all of which he collected. This amount was entered on June 29 by a debit to Cash and a credit to Engineering Revenue, and the accounts would appear as follows:

Cash			
June 1	2,850		
29	625		

John Bright, Proprietorship			
		June 1	2,850

Engineering Revenue			
		June 29	625

If there were no goods or services used up (other than Mr. Bright's own time) the assets of Mr. Bright would be increased $625 as a result of the transactions. And since the proprietorship may be obtained by deducting the amount of the liabilities from the amount of the assets, the proprietorship would be increased $625. Thus it is often stated in accounting that revenue accounts are accounts which show increases in assets and increases in proprietorship. Although this concept is not entirely correct, as revenue is almost always reduced by expenses, it is useful in that it brings out the fact that revenue accounts simply show, or "account for," the amount of assets received as a result of exchange transactions.

Expense Accounts. As stated before, *the revenue account or accounts of a business enterprise show the amount of the consideration, usually assets, acquired when goods are exchanged or services rendered. Expense accounts show the costs of the goods and services expended in obtaining these assets.* The costs of goods and services expended will sooner or later result in the reduction of assets. Some of these goods and services so expended are paid for soon after or even before they are received, and are recorded as salaries, wages, rent, and the like, resulting in the reduction of the asset account Cash. The costs of other services, such as those of buildings, delivery equipment, and furniture and fixtures, may be recorded on the books in

asset accounts. At the end of each accounting period the cost of the services used up would be determined and the asset account correspondingly reduced. Still other such goods and services may be used up during one accounting period but not paid for until a later accounting period.

Thus, the revenue accounts show the amount the assets are increased as a result of revenue transactions, and the expense accounts show the amount the assets are reduced because of these transactions. The difference, the profit or loss for the period, is the increase or decrease in the net assets of the business, and hence the increase or decrease in proprietorship.

Since expense accounts show deductions that should be made from revenue accounts we should expect expense transactions to be recorded exactly opposite to the way in which revenue transactions are recorded, which is true. For example, if on May 31, 1944, rent of $200 was paid for May, an entry would be made to debit Rent Expense $200 and credit Cash $200 as follows:

Rent Expense

May 31	200		

Cash

		May 31	200

That is, we may say that *expenses are recorded by debits to expense accounts, and conversely, the balance of an expense account is reduced by placing a credit in the account.* This may be illustrated as follows:

Expenses

+	−

Now let us see what would happen if expenses were incurred by Mr. John Bright in rendering the services for which he received $625. As illustrated in the preceding section on Revenue Accounts, the $625 was recorded by a debit of $625 to the Cash account and a credit of $625 to the Engineering Revenue account, and the accounts appeared as follows:

Cash

June 1	2,850		
29	625		

John Bright, Proprietorship

		June 1	2,850

Engineering Revenue

		June 29	625

The following were the expenses for June, all of which were paid in cash on June 30; rent $150, salary of a helper $125, and sundry expenses

of $75. These expenses would be recorded by debits to the proper expense accounts and credits of the same amount to the Cash account, as follows:

Cash

June 1	2,850	June 30	150
29	625	30	125
		30	75

John Bright, Proprietorship

		June 1	2,850

Rent Expense

June 30	150		

Salary Expense

June 30	125		

Sundry Expenses

June 30	75		

Engineering Revenue

		June 29	625

The assets and proprietorship did not increase $625 as would have been the case if there had been no expenses; they increased only $275, the difference obtained by deducting the expenses from the revenue. Although the services rendered by Mr. Bright brought assets of $625 into the business, the expenses reduced assets by $350, leaving a net increase of $275 in the assets and the proprietorship. This is revealed by the following statement of profit and loss:

John Bright

Statement of Profit and Loss
Month of June, 1944

Engineering Revenue		$625
Less Expenses:		
Rent Expense	$150	
Salary Expense	125	
Sundry Expenses	75	350
Operating Profit		$275

The chief purpose of revenue and expense accounts is not that of showing changes in the proprietorship account (this could be done in other ways), but is that of showing the revenue and the different types of revenue and expenses for the period. This information is used by the management of the business in many ways, some of which are discussed later in this volume.

The preceding examples have been simplified for illustrative purposes.

The student should keep in mind that, whereas revenue accounts show the amount of the consideration received through exchange transactions, the consideration need not be cash. As already stated, it is usually an asset, although in rare instances a liability may be reduced. The assets commonly acquired through revenue transactions are cash, accounts receivable, and notes receivable. The nature of expense accounts must also be kept in mind. The reduction of an asset is not the test of an expense. Although expenses do result in the reduction of assets, assets may also be reduced by other types of transactions. *The test of an expense is whether or not goods or services have been expended in obtaining the consideration received as a result of revenue transactions.* If the services of a salesman have been used in the exchange of goods and services, his salary is an expense whether it has been paid or not.

Summary of the Rules for Debits and Credits. In Chapter IV the rules for the making of debits and credits to asset, liability, and the proprietorship accounts were explained, and in this chapter the rules for making debits and credits to revenue and expense accounts were covered. These rules are now summarized as follows:

Debit	*Credit*
Increases in assets	Decreases in assets
Increases in expenses	Decreases in expenses
Decreases in liabilities	Increases in liabilities
Decreases in proprietorship	Increases in proprietorship
Decreases in revenue	Increases in revenue

These rules may be summarized in account form as follows, using R for revenue and E for expenses:

$$A = L + P + R - \mathrm{E}$$

Assets		Liabilities		Proprietorship		Revenue		Expenses	
+	−	−	+	−	+	−	+	+	−

Relationship of the Length of the Accounting Period to Asset and Expense Accounts. *Costs are recorded either in asset or expense accounts, the length of the accounting period often determining whether the cost will be recorded as an asset or an expense.* For example, insurance purchased for a 6-month period would ordinarily be recorded as an asset when purchased if the accounting period were one month. If the accounting period were one year, and the insurance had been purchased early in the year, however, it would not be improper to record the cost as an expense. The cost of a machine would ordinarily be recorded in an asset account, but

if it were known that all the services the machine was capable of rendering would be received before the end of the accounting period it would not be improper to record the cost as an expense. A cost of $180 for a 3-year insurance policy might be considered to be made up of three parts of expense, illustrated as follows:

Prepaid Insurance
Asset $180

Expense of first year $60	Expense of second year $60	Expense of third year $60

When the cost of $180 was incurred, the entire amount would be recorded in an asset account Prepaid Insurance, but this amount is expected to become expense in the current and future accounting periods. If profits and losses were computed monthly the asset might be considered to be made up of 36 parts of expense.

A cost of $2,400 incurred for a delivery truck which would last 4 years may (disregarding trade-in value) be considered to be made up of four parts of expense, illustrated as follows:

Delivery Equipment
Asset $2,400

Expense of first year $600	Expense of second year $600	Expense of third year $600	Expense of fourth year $600

If profits and losses were determined monthly the cost might be considered to be made up of 48 parts of expense.

The costs of $180 incurred for insurance and $2,400 for the delivery truck would, when incurred, be debited to asset accounts. At the end of the first year, in the case of the truck, $600 would be converted into expense and $1,800 left as an asset; at the end of the second year another $600 would be converted into expense and $1,200 left as an asset; at the end of the third year another $600 would be converted into expense and $600 left as an asset; and at the end of the fourth year the final $600 would be converted into expense. When a delivery truck is purchased during an accounting period some of its services will be obtained before the end of that period and some in subsequent accounting periods. Even though such costs are in part for services that will be received during the current accounting period, it is a good practice to record them in asset accounts, and at the end of the accounting period determine the portions that are expenses and the portions that should be shown as assets. There are many

costs of this type, examples of which are those for all kinds of buildings and equipment and prepaid expenses.

On the other hand, it often happens that all the goods or services have been used up before the cost is recorded, as is usually the case with costs incurred for salaries and wages, light, telephone, and the like, which are not ordinarily recorded until paid for (unless the end of an accounting period intervenes before payment). Such costs are properly recorded as expenses. For example, if on January 31 a salesman is paid his salary of $200 for January, the entry would be a debit of $200 to Sales Salary Expense and a credit of $200 to Cash.

Other costs are incurred for services which will be used up by the end of the accounting period, but on the day on which they are incurred may be properly recorded in asset accounts. Such costs are, however, ordinarily recorded as expenses. For example, rent of $300 for January, paid on January 1, could be recorded in an asset account on January 1, for on that date all the services are still to be received. However, it would then be necessary at the end of the accounting period to convert the asset into expense; it is easier to record such costs as expenses in the first place.

An exception to the latter practice may be made of costs which will be entirely expense before the end of the accounting period, but which are debited to accounts that normally have asset balances at the end of the period. Sales supplies, such as cartons purchased for the sales department, would, when purchased early in the accounting period, ordinarily be used up before the end of the accounting period, and consequently we would be justified in recording such costs as expenses. But in the meantime additional sales supplies will have been purchased with the result that the Sales Supplies account will have an asset balance at the end of the accounting period. Such costs are more conveniently debited to asset accounts, and at the end of the period the division made between expense and asset.

To summarize, it may be stated that the following practices are sound:

Costs incurred for services that will be received beyond the current accounting period are best recorded in asset accounts.

Costs not recorded until after all the services have been received are best recorded in expense accounts.

Costs incurred for goods and services which will be used up by the end of the accounting period are best recorded in asset accounts when the accounts to which they are debited normally have asset balances at the end of accounting periods.

A study of the following tabulation of certain costs incurred during December when the accounting period ends on December 31 will aid the student in understanding how to record expenditures:

Date of Transaction	*Type of Transaction*	*Explanation*	*Account Debited*
Dec. 1	Rent was paid for December, $300	Services will all be used up by end of December	Debit Rent Expense, $300
Dec. 3	Insurance purchased for one year, $135	Services will be received beyond December	Debit an asset account, Prepaid Insurance, $135
Dec. 5	A week's supply of envelopes and stationery was purchased for the office, $5	Supplies will be used up by Dec. 31 but additional supplies will have been purchased by that time	Debit an asset account, Office Supplies, $5
Dec. 5	Office desk purchased, $125	Services will be received beyond December	Debit an asset account, Office Equipment, $125
Dec. 5	Paid December advertising, $145	Services will all be received during December	Debit Advertising Expenses, $145
Dec. 12	Purchased a display case for sales department, $225	Services will be received beyond December	Debit an asset account, Sales Equipment, $225
Dec. 15	Salesman was paid his salary for December, $215	Services will all be used up during December	Debit Sales Salary Expense, $215
Dec. 25	Advanced a salesman $100 on his January salary	Services will be received beyond December	Debit an asset account, Prepaid Sales Salaries, $100
Dec. 30	Paid $135 on contract for January advertising	Services will be received beyond December	Debit an asset account, Prepaid Advertising, $135
Dec. 31	December telephone services were paid for, $42.50	Services were all received during December	Debit Telephone and Telegraph Expenses, $42.50

The Recording of Expenses. In the preceding section it was explained that certain expenses are recorded on the books when payment is made, and that other costs which will be in part expenses by the end of the accounting period are recorded in asset accounts. To these we may add a third expense situation; goods and services expended during an accounting period may not be recorded on the books at the end of the period either in asset or expense accounts. Thus we have what we may call three expense situations which we may summarize as follows:

1. Goods and services expended during the accounting period for which payment was made during the period.
2. Goods and services expended during the period but the costs recorded in asset accounts.
3. Goods and services expended during the accounting period but the costs not recorded on the books at the end of the accounting period.

The first situation results in no difficulties. As explained in the preceding section, the cost is recorded as an expense when the payment is

made, and at the end of the period these expenses are already recorded on the books. Such costs are those for salaries, wages, rent, heat, light, and the like. They are ordinarily payments for services rather than for goods.

The reader is already familiar with the second situation, the one in which costs recorded in asset accounts are in part used up by the end of the accounting period. Costs incurred for buildings, machinery, office equipment, delivery equipment, prepaid insurance, prepaid rent, office supplies, and sales supplies are of this type. At the end of the accounting period the expense portions of such costs must be determined and recorded in expense accounts and the asset accounts reduced by credits.

The third expense situation usually pertains to expenses like those mentioned under the first situation, salaries, wages, and taxes, which have not been paid during the accounting period. Such costs are incurred for services as distinguished from goods, and are not ordinarily recorded until paid. Nevertheless the cost of services like those of a salesman received during an accounting period are ordinarily expenses of that period whether paid or not. At the end of the accounting period these expenses must be recorded, which is done by debiting the proper expense account and crediting a liability account.

It will be observed that all three expense situations result in the reduction of assets. The first results in the reduction of cash; the second results in the reduction of assets like buildings, prepaid insurance, and sales supplies, and the third results in the recording of a liability which must be paid during a subsequent accounting period, reducing the cash.

The illustrations in this chapter will be confined to expenses recorded on the books when the payment is made. The latter two expense situations will be discussed in Chapter VI.

Double Entry Bookkeeping. The reader is now sufficiently well informed to understand the term *double entry bookkeeping*. Double entry bookkeeping is the only formal system of bookkeeping. We sometimes hear of single entry bookkeeping, but there is no such formal system. Single entry bookkeeping simply means that memorandum records are maintained to provide the data needed for operating purposes and for preparing statements. When memorandum records are used instead of the double entry system, records are usually maintained of only assets and liabilities.

Double entry bookkeeping is that system the theory of which has been described in this and the preceding chapter. It is the system under which equal debits and credits are made for each transaction. It is based upon the double effect of every transaction affecting assets, liabilities, the proprietorship, revenue, or expense.

The tabulation on page 75 is presented not as an exhaustive list of every possible type of transaction, but to emphasize the dual effect of

transactions. For example, the first item brings out the fact that an increase in an asset may be accompanied by a decrease in another asset, an increase in a liability, an increase in proprietorship, an increase in revenue, or some combination of these. An increase in an asset is recorded by a debit to an asset account, and at the same time a credit is made to some other account.

Asset acquired (recorded by a debit)	may involve	The reduction of another asset, an increase in a liability, an increase in proprietorship, an increase in revenue.
Asset reduced (recorded by a credit)	may involve	An increase in another asset, the reduction of a liability, an increase in an expense, a decrease in proprietorship.
Liability increased (recorded by a credit)	may involve	An increase in an asset, an increase in an expense, a decrease in another liablility, a decrease in proprietorship.
Liability decreased (recorded by a debit)	may involve	A decrease in an asset, an increase in another liability, an increase in revenue.
Proprietorship increased (recorded by a credit)	may involve	An increase in an asset, a decrease in a liability.
Proprietorship decreased (recorded by a debit)	may involve	A decrease in an asset, an increase in a liability.
Expense incurred (recorded by a debit)	may involve	A decrease in an asset, an increase in a liability.
Revenue (recorded by a credit)	may involve	An increase in an asset, a decrease in a liability.

The following tabulation presents specific transactions, an analysis of these transactions, and the accounts debited and credited. The reader should study each transaction to understand the debits and credits made.

Transaction	*Analysis*	*Account Debited*	*Account Credited*
Sales supplies purchased for $50 cash	Asset increased Asset decreased	Sales Supplies	Cash
Delivery truck purchased for $1,000 note payable	Asset increased Liability increased	Delivery Equipment	Notes Payable
Proprietor invested $3,000 in the business	Asset increased Proprietorship increased	Cash	Proprietorship
Rent of $150 collected for current month	Asset increased Revenue increased	Cash	Rent Revenue
A note payable for $1,000 paid	Liability decreased Asset decreased	Notes Payable	Cash
Office salary of $150 paid for current month	Expense increased Asset decreased	Office Salary Expense	Cash
Sales salary unpaid at end of current month	Expense increased Liability increased	Sales Salary Expense	Sales Salaries Payable
Proprietor withdrew $300	Proprietorship reduced Asset reduced	Proprietorship	Cash

The chief advantage of the double entry system is that it provides a complete record of business transactions, a record that makes possible a reasonably accurate verification of the mechanical accuracy of the entries. The equal debits and credits for each transaction provide a simple method of verifying the accuracy of the debits and credits by means of the trial balance, which has already been briefly explained.

Illustration of the Use of Profit and Loss Accounts. Mr. George Dykes started a garage business on June 1, 1944; he deposited $900 in the bank to the credit of the business; all services were rendered for cash. In order to reduce the number of entries the transactions are all given as of June 30.

Transactions:

June 30 Paid a helper his salary for June, $75.
30 Paid rent for June, $150.
30 Paid $90 for supplies, all of which were used on jobs done for customers.
30 Paid the bill for light and heat for June, $30.
30 Paid the telephone bill of $15 for June.
30 Purchased a truck for $600 cash.
30 Paid $80 for fire insurance for 1 year on truck, the insurance to start on July 1.
30 Collected $700 for services rendered during June.

These transactions are now entered in ledger accounts. Each debit and the corresponding credit is given the same number for identification.

Cash

1944						*1944*					
June	1	(1)		900	00	June	30	(2)		75	00
	30	(9)		700	00		30	(3)		150	00
				1,600	00		30	(4)		90	00
							30	(5)		30	00
							30	(6)		15	00
							30	(7)		600	00
							30	(8)		80	00
										1,040	00

Prepaid Insurance

1944											
June	30	(8)		80	00						

Delivery Equipment

1944											
June	30	(7)		600	00						

George Dykes, Proprietorship

						1944					
						June	1	(1)		900	00

Revenue from Services

						1944					
						June	30	(9)		700	00

Salary Expense

1944											
June	30	(2)		75	00						

Rent Expense

1944											
June	30	(3)		150	00						

Supply Expense

1944											
June	30	(4)		90	00						

Light and Heat

1944											
June	30	(5)		30	00						

Telephone and Telegraph

1944											
June	30	(6)		15	00						

These entries are now explained.

Entry 1 is a debit of $900 to the Cash account and a credit of $900 to the George Dykes, Proprietorship account. This entry is made to record the investment of $900 in the business by George Dykes. When the proprietor invests his own personal property in the business, an asset is increased and the proprietorship is increased.

Entry 2 is to record the payment of $75 to a helper for his salary for June. The services are all received by the end of June. Since none of the cost of the services is a cost of future sales, the cost is recorded as an expense. The Salary Expense account is debited $75, and the Cash account is credited $75.

Entry 3 is made to record the payment of $150 for rent for the month of June. The Rent Expense account is debited $150, and the Cash account is credited $150. Again the cost of $150 is for services, all of which were

obtained in June and none of which apply to future sales, hence the cost is recorded as an expense.

Entry 4 is a debit of $90 to the Supply Expense account and a credit of the same amount to the Cash account. Because the supplies were immediately used on jobs, the cost is a cost of the current revenues. The debit was therefore made to an expense account, and, since the asset Cash was reduced, the credit was made to the Cash account. Ordinarily, when supplies are purchased, an asset account is debited.

Entries 5 and 6, like entries 2, 3, and 4, were made to record expenses. The costs incurred for heat and light and for the use of the telephone were made for services which were used in obtaining the current revenue.

Entry 7 is a debit of $600 to the Delivery Equipment account and a credit of $600 to the Cash account. As all the services are to be received in the future, the debit is to an asset account. Since the asset, cash, is reduced, the credit is to the Cash account.

Entry 8 is a debit of $80 to an asset account called Prepaid Insurance or Unexpired Insurance, and a credit of $80 is made to the Cash account. Again, since the benefits from this expenditure are all to be received in the future, the cost is debited to an asset account.

Entry 9 is a debit of $700 to the Cash account and a credit of $700 to the Repair Revenue account. Cash of $700 is received in exchange for services. The asset Cash is increased $700, and the revenue is increased $700.

From these ledger accounts a trial balance may be made up, and a balance sheet and a statement of profit and loss may be prepared. The trial balance of the George Dykes Garage on June 30 is:

George Dykes

Trial Balance

June 30, 1944

	Dr.	*Cr.*
Cash	$560	
Delivery Equipment	600	
Prepaid Insurance	80	
George Dykes, Proprietorship		$900
Revenue from Services		700
Salary Expense	75	
Rent Expense	150	
Supply Expense	90	
Light and Heat	30	
Telephone and Telegraph	15	
	$1,600	$1,600

The statement of profit and loss for George Dykes for the month of June, and the balance sheet as of June 30, follow:

George Dykes

Statement of Profit and Loss
June 1 to 30, 1944

Revenue from Services		$700
Operating Expenses:		
Rent	$150	
Salaries	75	
Supplies	90	
Light and Heat	30	
Telephone and Telegraph	15	360
Operating Profit		$340

George Dykes

Balance Sheet
June 30, 1944

Assets		*Liabilities and Proprietorship*	
Cash	$ 560	Geo. Dykes, Proprietorship, June 1	$ 900
Delivery Equipment	600	Profit for June	340
Prepaid Insurance	80		
	$1,240		$1,240

Sales on Credit. Sales, instead of being made for cash, may be made on credit, or for a written promise to pay called a note receivable.

If on January 6 Mr. George Dykes rendered repair services for T. S. Green for which he charged $100, which he did not immediately collect, a claim, known as an account receivable, is obtained against T. S. Green. This claim is recorded as an asset. The entry to record such a transaction is a debit to an account entitled T. S. Green and a credit to the Repair Revenue account.

T. S. Green

1944 Jan.	6			100	00						

Repair Revenue

						1944 Jan.	6			100	00

If T. S. Green paid his bill on January 20, an entry would be made to debit the Cash account $100 and to credit the T. S. Green account $100. The asset, cash, is increased $100, and the account receivable, T. S. Green, is decreased $100, as follows:

Cash

1944 Jan.	20			100	00						

T. S. Green

1944 Jan.	6			100	00	1944 Jan.	20			100	00

If on May 5 services were rendered for $500 for E. B. Jones, who gave his note for that amount, the transaction would be recorded by a debit to Notes Receivable and a credit to Repair Revenue:

Notes Receivable

1944 May	5			500	00						

Repair Revenue

						1944 May	5			500	00

Ordinarily only one account is opened for notes receivable as such transactions are usually so few that one account will provide a satisfactory record of the transactions.

The credit is made to the same revenue account whether the services were rendered for cash, on credit, or for a note.

The Number of Accounts Used. The number of accounts used depends upon the amount of detail needed by the business. To generalize, it may be stated that an account is opened for each asset, each liability, the proprietorship (except for partnerships and corporations, which will have more than one proprietorship account), each type of revenue, and each expense. But there may be some grouping of revenues and expenses, more particularly of expenses. It would hardly be worth while for the ordinary business enterprise to open an account for water expense, another for light expense, another for telephone expense, and another for telegraph expense. These might better be entered in one account given some such title as Sundry Expenses or Miscellaneous Expenses. In any particular business the number of accounts used is a matter of expediency. A small business might enter all selling expenses in one account called Selling Expenses. As the volume of business increases and certain selling expenses become important, these latter expenses might be entered in separate ledger accounts.

Likewise the number of asset accounts used depends upon the needs of the business. Accounts are opened for each customer in order that a detailed record of all the transactions with the customer may be readily available. Unless notes receivable are numerous, one account, as above stated, will provide a satisfactory record of all notes receivable. Merchan-

dise is ordinarily recorded in more than one account in order to distinguish the merchandise purchased during the period from that which was on hand at the beginning of the period. Merchandise transactions will be discussed in Chapter VIII. Costs of equipment, such as furniture and fixtures, present two problems. First, costs of equipment used for different purposes should be recorded in different accounts. For example, the costs of office equipment should be segregated from those incurred for equipment used by the sales department. Second, the costs should be segregated in such a way that the computation of the costs for the period will be simplified. The computation of the amount that should be recorded as a cost of the period is complicated if we include in the same account a cost 20 per cent of which is an expense of the period, and another cost 10 per cent of which is an expense of the period.

In order that a record of all the transactions with each creditor may be readily available, an account payable is opened for each creditor. For notes payable one account will ordinarily provide a satisfactory record. Each note payable would be recorded by a credit entry in this account, and when the note is paid a debit entry would be made to the account. Note payable transactions are usually comparatively few, so a satisfactory record of each note can be maintained in this way.

Order of Accounts. Accounts are placed in the ledger in the order in which they will appear on the balance sheet and statement of profit and loss. This is done in order that the statements may be prepared without rearranging the accounts. Ordinarily the balance sheet accounts are opened in the first part of the ledger with the asset accounts listed first, followed by the liability accounts and the proprietorship accounts. These are followed by the revenue and expense accounts. Of the balance sheet accounts the Cash account is usually entered first. This is followed by the customers' accounts, Notes Receivable, Inventory, Buildings and Equipment, etc. The asset accounts are followed by such liability accounts as trade-creditors' accounts, Notes Payable, Bonds Payable, and Mortgages Payable. These are followed by the proprietorship account or accounts. The revenue and expense accounts then follow in the order in which they will appear on the profit and loss statement.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. How is revenue recorded?
2. What entry would you make to record $200 cash received by Wm. Barto for services he rendered?
3. Is revenue an asset?
4. How might you draw a relationship between revenue accounts and the proprietorship accounts?

5. What are expenses?

6. How are expenses recorded?

7. Justify this method of recording expenses.

8. Arthur Brown started business with $2,000 cash. During March he rendered services for which he collected $400 cash. He paid expenses of $100. Using only the Cash account and the Arthur Brown, Proprietorship account, make the entries for March. Can you determine the profit or loss for March? Why do we not use only asset, liability, and the proprietorship account when keeping books?

9. What is the relationship between expenses and assets like prepaid insurance, buildings, and furniture and fixtures?

10. Are expenses ever recorded without first being recorded as assets?

11. Mr. Lewis paid $6,000 for four trucks which he is going to use for a contract he had on the desert. This contract would last about one year. The trucks would be worthless after the contract was completed and would be abandoned.

(a) If Mr. Lewis is going to make only one computation of his profit, and that after the job is completed, how might he record the purchase of the trucks?

(b) If Mr. Lewis wanted his books to show at the end of each month his expenses and assets as accurately as they can be determined, how would he record the purchase of the trucks?

12. Does the payment of rent result in an expense?

13. What entries would you make to record the following transactions occurring in January, 1944? The accounting period is one month.

Jan.	1	January rent of $150 was paid.
	9	Supplies which will be used by the sales department over a period of 6 months were purchased for $150 cash.
	10	A truck was purchased for $900 cash.
	13	A salesman was paid his salary of $200 for January.
	18	The bookkeeper was paid his salary of $175 for January.
	21	Rent of $150 for the last month of the lease was paid in advance.
	24	A salesman was advanced his salary of $200 for February.
	31	The Tri-State Utilities Co. was paid $35 for the use of the telephone for January.
	31	The Central Heating Company was paid $60 for heating the building during January.

14. What is the meaning of the term "Double entry bookkeeping"?

15. What entries would you make to record the following transactions?

Mr. A. L. Jones, an accountant, rendered services for:

Wm. White for $50 cash.
A. Breen for $100 on credit.
E. Eggert for $75, for which he received Mr. Eggert's 60-day note for $75.

16. Make the entries to record the following transactions on the books of the Wet-Wash Laundry.

Jan. 6	The Wet-Wash Laundry rendered services for Mr. E. A. Zimmerman for $12.60 on credit.
Feb. 5	Mr. Zimmerman paid with a check for $12.60.

17. Why was the revenue in problem 16 recorded in January instead of in February when the cash was received?

18. How would you determine the number of accounts you would use in keeping a set of books?

19. In what order would you recommend that accounts be placed in the ledger?

LABORATORY PROBLEMS

1. P. R. MacDonald opened a garage on January 1, 1943, investing $400 cash in the business. He hired a mechanic for $125 a month, and an office employe for $70. During the month he collected $850 cash from repair jobs (all repairs were made for cash). He paid rent for January, $85. He paid his employees their salaries for January. He borrowed $300 from the bank on January 31, giving his 90-day note payable. He paid sundry expenses of $25.

(a) On one sheet of ledger paper open ledger accounts for the following, allowing the number of lines indicated for each account: Cash (6); Notes Payable (3); P. R. MacDonald, Proprietorship (3); Repair Revenue (3); Salary Expense (4); Sundry Expenses (3); and Rent Expense (3). Open the books and make the entries to record the above transactions, recording them as of January 31, 1943.

(b) On the other side of the sheet of ledger paper compute the profit or loss for the period.

2. On January 1, the Elco Radio Repair Co. had cash of $400, and owed $100 on a note payable bearing no interest. All repairs were made for cash. Collected $425 for repairs; paid off the note payable, paid a salary of $90 for January, paid rent of $50 for January, paid $80 for parts used on repair jobs, paid sundry expenses of $23.

(a) On one sheet of ledger paper open the following ledger accounts, allowing the number of lines indicated: Cash (7); Notes Payable (3); Elco Radio Repair Co., Proprietorship (3); Repair Revenue (3); Salary Expenses (3); Rent Expense (3); and Sundry Expenses (4). Make the entries to open the books and to record the preceding transactions as of January 31.

(b) On the other side of the sheet of ledger paper compute the profit or loss for the period.

3. The K. C. W. Rug Co., specializing in cleaning rugs, started business with $350 cash, and a building valued at $2,500. All work was done for cash. The business was opened August 1, and the following were the transactions for August: Collected $375 for services rendered; supplies purchased and used in cleaning, $24, paid in cash; paid salary of $100 for August; paid sundry expenses for August, $10.25; purchased insurance for one year commencing August 31 for $24 cash; borrowed $600 from the bank, giving a note payable; purchased a secondhand truck on August 31 for $450 cash.

Open the books and make the entries for the above transactions only. Allow 5 lines for the entries in the Cash account and space for one entry in each of the following accounts: Prepaid Insurance; Buildings; Notes Payable; K. C. W. Rug Co., Proprietorship; Cleaning Revenue; Salaries; Supplies Used; and Sundry Expenses.

4. Mr. T. W. Hillier opened a business as a consulting engineer. Make up a tabular form with one column for debits and one column for credits, and in the respective columns write amounts and the names of the accounts to be debited and credited. Number your transactions as below.

1. Cash of $1,200 was invested in the business.
2. Services were rendered for Wilmer Smith on credit, $300.
3. Services were rendered for $200 for which a note receivable was accepted.
4. Services were rendered for $75 cash.
5. Collected $100 from Wilmer Smith as a payment on his account of $300.
6. Received a note receivable for $200 from Wilmer Smith for the balance of his account.
7. Purchased on credit engineering supplies for $300 from Hilton Supply Co.
8. Purchased a truck for $600 cash.

9. Purchased office supplies for $50 cash.
10. Paid Hilton Supply Co. $200 on account.
11. Services rendered to Newton Block Company on credit, $350.
12. Gave Hilton Supply Co. a note for $100, which was the balance due them.
13. Purchased insurance on equipment for $145 cash. The insurance was for one year.
14. Paid a telephone bill of $15 for the current month.
15. Paid a light bill of $18.50 for the current month.
16. Collected $150 from Newton Block Company on account.
17. Purchased on credit a filing cabinet for $75 from the Office Fixtures Company.
18. Purchased a typewriter for $95 cash.
19. Paid the Customer Credit Company $10 for an investigation made of the credit standing of Newton Block Company.
20. Paid advertising of $80 for the month.
21. Paid an assistant engineer his salary of $150 for the current month.
22. Paid an office clerk his salary of $125 for the current month.
23. Paid the Office Fixtures Company $75 on account.
24. Paid rent of $125 for the current month.
25. Received $200 from Wilmer Smith in payment of his note.
26. Paid the $100 note payable to Hilton Supply Co.

5. On August 1, 1944, Mr. A. B. Humes deposited $10,000 in the First National Bank to the credit of the A. B. Humes Car-Clean Company. The purpose of the business was to wash cars for customers while they waited. On August 3 he purchased a building for $8,000, paying $3,000 cash and giving a 6 per cent, 10-year mortgage for the balance. The other transactions for the month were:

Aug.	4	He contracted with A. B. Mann for alterations to the building. The contract price was $1,200. Services from the alterations will be received for many years.
	9	Paid A. B. Mann $1,200; the job was now completed.
	12	A moving belt and other supplementary equipment were installed at a cost of $1,800, which was paid. Six workers were hired to report for work on August 16. Wages were to be $4 a day.
	14	Purchased miscellaneous supplies such as soap, chamois, rags, etc., for $65.10 cash. (Debit an asset account.) Insurance on the building and equipment was purchased for one year for $95 cash. Purchased a vacuum cleaner from Huver Bros. for $45.80 on credit. Paid $25 for advertising in the daily paper to announce the opening of the business.
	16	Collected $25 for washing cars.
	20	Collected $55 for washing cars.
	21	Paid the wages of the workers for 6 days each. Collected $18 for washing cars.
	23	Collected $65 for washing cars.
	24	Collected $85 for washing cars.
	26	Collected $94 for washing cars. Paid license fee of $25 to the city. (Debit an expense account.)
	27	Collected $83 for washing cars.
	28	Paid wages for 6 days to each of the workers. Collected $45 for washing cars.
	30	Collected $74 for washing cars. Paid $10 to Huver Bros.
	31	Collected $64 for washing cars.

(a) Open the following accounts and make entries for the above transactions allowing the number of lines indicated for each account: Cash (12); Supplies (3); Prepaid Insurance (3); Buildings (5); Sundry Equipment (4); Huver Bros. (3); Mortgage Payable (3); A. B. Humes Car-Clean Co., Proprietorship (3); Advertising Expenses (3); Wages (4); Sundry Expenses; Car Washing Revenue (11).

(b) What additional information would you need given in order to prepare a statement of profit and loss for the month of August?

6. The following are the transactions of the Speedway Garage operated by Arnold White:

June	1	Mr. White started business by depositing $5,000 in the bank to the credit of the business.
	2	Leased a building for 2 years at a rental of $100 a month. Paid rent of $100 for June.
	3	Purchased brake testing equipment at a cost of $225 installed. The installation was completed and paid for on June 8 (make no entry).
	6	Purchased special testing equipment for $325 cash. Hired an assistant at $25 a week.
	8	Paid $225 for special brake testing equipment which is now installed.
	9	Paid $30 for insurance on equipment for one year from June 1.
	11	Paid the helper $25.
	14	Collected $20.35 for repairs made.
	16	Purchased brake lining and other miscellaneous supplies for $85 cash. (Debit an asset account.)
	18	Paid helper $25. Collected $15.60 for repairs. Purchased a secondhand truck for $350 cash. Paid $310 for gasoline and oil.
	23	Collected $55.10 for repairs.
	24	Collected $25.20 for repairs. Repaired trucks for the United Dye Works, $35.50; debited their account.
	25	Paid helper $25. Collected $18.50 for repairs.
	27	Paid $33.20 for gasoline and oil. Collected $34.50 for repairs.
	30	Collected $48.10 for repairs.

Open the following accounts, allowing space for the number of transactions indicated, and make entries for the above transactions: Cash (10); United Dye Works (3); Prepaid Insurance (3); Supplies (3); Equipment (4); Truck (3); Speedway Garage, Proprietorship (3); Rent Expense (3); Salaries (4); Gasoline and Oil (4); Repair Revenue (10).

7. Arne Olsen and several relatives formed the Atlas Fishing Co., a corporation with a capital stock of $5,000, which was sold for $5,000 cash, on February 5, 1944. On February 8 a fishing boat was purchased for $5,000 for which cash of $3,000 was paid, and a mortgage for $2,000 was given. The boat was removed from the water on February 9 and scraped and cleaned at a cost of $75, paid in cash; this would be done each season. Five men were hired who agreed to accept as recompense 75 per cent of the gross proceeds (the amount received for the fish sold). On February 10 insurance for the season was purchased at a cost of $156.75 which was paid.

On February 20 fish nets and other equipment which will last for several years were purchased for $1,200 from the Eastern Marine Supply Company; cash of $700 was paid, and an agreement was made to pay the balance in 90 days.

On February 22 gasoline and oil were purchased on credit from the Marine Service Co. for $133.80. Food was purchased on credit from Greenback Wholesale Co. for $77.20. Ice and preservatives were purchased for $55.80 cash.

On March 8 the first catch of fish was sold for $1,882.70 cash. Checks were made out to the five helpers, and a check for $200 was given Mr. Olsen for his salary.

On March 11 checks were written to the Marine Service Co. and to the Greenback Wholesale Co. for the balances due them. A check was made out to the Eastern Marine Supply Company for $200.

On March 16 food was purchased on credit from the Greenback Wholesale Co. for

$155.65. Gasoline and oil were purchased on credit from the Marine Service Co. for $96.80. Ice and preservatives were purchased for $65.60 cash.

On April 2 the second catch of fish was sold for $1,650.45 cash. Checks were made out to the helpers and a check for $200 was made out to Mr. Olsen for his salary.

On April 5 a check was made out to the Greenback Wholesale Co. for the balance of its account. Eastern Marine Supply Company was paid the balance of its account plus $15 interest.

On April 8 the Marine Service Co. was paid the balance of its account.

On April 10 food was purchased from the Greenback Wholesale Co. for $156.80 for which a note payable was issued. Gasoline and oil were purchased on credit from the Marine Service Co. for $123.10. Ice and preservatives were purchased for $87.60 cash. Mr. Olsen was given a check for $300 to use to purchase supplies on the trip.

On April 29 the third catch of fish was sold for $1,995.50 cash. Checks were made out to the helpers and one to Mr. Olsen for his salary of $200. Mr. Olsen returned $175.60 of the $300 he received; the balance was used as follows: $85.70 for food and $38.70 for gasoline and oil. All bills were paid and insurance for the 9 months the boat would be in storage was purchased for $115.10 cash.

(a) Open the following T accounts, allowing space for the number of transactions indicated, and enter the above transactions for the season: Cash (20); Prepaid Insurance (2); Advances to Mr. Olsen (2); Fishing Boat (1); Equipment (1); Notes Payable (1); Marine Service Co. (3); Eastern Marine Supply Company (2); Greenback Wholesale Co. (4); Mortgage Payable (1); Capital Stock (1); Sales (3); Ice and Preservatives (3); Food (4); Gasoline and Oil (4); Salaries (3); Wages (3); Sundry Expenses (1); Interest Expense (1); Insurance Expense (1).

(b) Make up a trial balance as of April 30, 1944.

(c) Disregarding depreciation and treating the Food, Gasoline and Oil, and Ice and Preservative accounts as expense accounts, prepare a statement of profit and loss for the season.

CHAPTER VI. REVENUE AND EXPENSE TRANSACTIONS, ADJUSTING ENTRIES

Nature of Adjusting Entries. The cost of goods and services used up during an accounting period should be recorded as costs of that period, and for the present we shall consider these to be costs of exchanging goods and rendering services during that period and therefore expenses. In Chapter V illustrations were given of methods of recording payments for services already received when the payments were made. These were recorded as expenses. In that chapter it was also brought out that there were two other expense situations:

1. Costs ordinarily recorded in such asset accounts as Buildings and Equipment, Prepaid Insurance, and Sales Supplies are in part expenses by the end of the current accounting period. Consequently at the end of the accounting period the expenses should be recorded and entries made to reduce the asset accounts.
2. Certain costs which are expenses at the end of the accounting period may not be recorded in any accounts. Consequently at the end of the accounting period these expenses must be recorded and liabilities recorded.

In addition there are somewhat similar revenue situations to consider. Revenue should be recorded in the accounting period in which it is earned, that is, in the period in which the goods are exchanged or the services rendered. Most revenue is so recorded, but not infrequently revenue may have been earned during an accounting period but not collected or recorded on the books. On the other hand assets are sometimes received before the services for which they were received are rendered, as in the case of rent collected in advance.

Thus we have two revenue situations to consider:

1. Revenue may have been earned but not recorded at the end of the accounting period, and entries must be made to record the claim for the revenue (an asset) and to record the revenue.
2. Revenue may be collected or recorded before it is earned, and entries must be made to record such revenue in the proper accounting periods.

In addition there may be other adjustments required, some of which, like that for bad debts, are of a financial nature. All the common adjusting entries are discussed in this chapter, except those for social security taxes which are discussed in Chapter XXI, and those for cost of goods sold

which are discussed in Chapter VIII. Other adjusting entries are illustrated when the topics to which they are related are discussed.

The common types of adjusting entries may be classified as follows:

Entries to Record Expense Transactions

1. Entries must be made to record expenses and reduce such asset accounts as Buildings, Prepaid Insurance, and Sales Supplies. These entries may be subclassified as follows:
   (a) Entries to reduce prepaid expense accounts such as those for Prepaid Insurance, Prepaid Rent, Sales Supplies, and Office Supplies.
   (b) Entries to reduce asset accounts for buildings and equipment and natural resources, the debits being made to accounts for depreciation and depletion.
   (c) Entries to reduce merchandise accounts and to record the cost of goods sold.
2. Entries must be made to record expenses unrecorded in any accounts at the end of the period. For example, the December salary of a salesman, unpaid at the end of December, should be recorded as an expense at the end of December and the liability recorded. Such entries are called entries to record *accrued expenses.*

Entries for Revenue Transactions

1. Entries must be made to record revenue earned but uncollected, examples of which are rent earned but uncollected, and interest earned but uncollected. The claim for the revenue (an asset) should be recorded and a credit made to a revenue account. Such entries are called entries to record *accrued revenue.*
2. Entries may be required to record in the proper accounting period the consideration collected or recorded before the services for which it is received are rendered. For example, rent for January 1944 collected in December 1943 is January revenue and not December revenue.

Entries for Financial and Other Sundry Transactions

The only adjustment of this type discussed in this chapter is that to record bad debts. Others are discussed in later chapters.

Before we discuss adjusting entries in more detail we may define adjusting entries as follows: *Adjusting entries are entries made at the end of the accounting period to record expenses and revenues in the proper accounting periods.*

Prepaid Expenses. The term *prepaid expenses* is used in accounting to designate costs incurred for supplies, insurance, rent, and the like when the services will extend beyond the current accounting period. Actually, costs like those of buildings and machinery may be considered prepaid expenses, but in accounting the term is used for those costs ordinarily considered to be expenses. When such costs are incurred they may be recorded either as assets or as expenses. It is a good practice, however, to record these as assets. On the day the expenditure is made the entire amount may represent an asset, but as time passes, and sales are made, part of the cost becomes an expense. Regardless of the entry made originally, a division of the cost

between an asset and an expense account must be made, and this is ordinarily done at the end of the accounting period.

If costs totaling $300 were incurred for sales supplies, the accountant must, at the end of the accounting period, record the expense. If sales supplies that cost $100 are on hand at the end of the period, this amount will represent an asset, and the balance of $200 is the cost of the supplies used. In merchandising enterprises, this will ordinarily be an expense.

Some costs of this type can be matched rather closely with the sales for which they were incurred. This is ordinarily true of such costs as sales supplies, but other costs, such as those incurred for insurance, can be matched only imperfectly with sales.

Entries to record prepaid expenses and to make the proper division of the cost between the asset account and the expense account are now illustrated. If $60 were expended on January 1 for insurance for one year, and if the revenues and expenses were matched on January 31, the accountant would allocate one-twelfth of $60, or $5, to the current accounting period as an expense and the remaining $55 to future accounting periods. If the $60 was recorded as a prepaid expense when the insurance was purchased, the entry for the purchase would be a debit of $60 to Prepaid Insurance and a credit of $60 to Cash, as follows:

Prepaid Insurance

1942 Jan.	1			60	00						

Cash

						1942 Jan.	1			60	00

The adjusting entry at the end of January would be a debit of $5 to Insurance Expense and a credit of $5 to Prepaid Insurance.

Prepaid Insurance

1942 Jan.	1			60	00	*1942* Jan.	31			5	00

Insurance Expense

1942 Jan.	31			5	00						

At the end of the year, the Prepaid Insurance account would contain twelve credits of $5 each if each credit were posted.

The cost of insurance might be recorded in another way. When the insurance was purchased the debit might have been made to Insurance Expense, and the entry on that date would be a debit of $60 to Insurance Expense and a credit to Cash.

Insurance Expense

1942 Jan.	1			60	00						

Cash

						1942 Jan.	1			60	00

The adjusting entry at the end of January would be a debit to Prepaid Insurance of $55 and a credit to Insurance Expense of $55.

Insurance Expense

1942 Jan.	1			60	00	*1942* Jan.	31			55	00

Prepaid Insurance

1942 Jan.	31			55	00						

Both methods result in a debit of $5 to Insurance Expense, but the first method, that of recording the original cost as an asset, is preferable, since no readjusting entry need be made later. Readjusting entries are discussed in Chapter XIII.

Costs of supplies are usually recorded as prepaid expenses. If office supplies were purchased on January 12 for $75, an asset account Office Supplies would be debited. At the end of the accounting period an inventory would be taken to determine the quantity on hand, and the balance would be removed from the account. To record office supplies purchased for $75 cash, an entry would be made to debit Office Supplies $75 and credit Cash $75.

Office Supplies

1944 Jan.	12			75	00						

Cash

						1944 Jan.	12			75	00

If at the end of the accounting period the inventory of office supplies was $35, supplies that cost $40 ($75 minus $35) have been used. An entry would then be made to debit Office Supply Expense $40 and credit Office Supplies $40.

Office Supplies

1944 Jan.	12			75	00	*1944* Jan.	31			40	00

Office Supply Expense

1944 Jan.	31			40	00						

The Office Supplies account might be considered to be the expense account, however, in which case it would be credited with the cost of supplies on hand at the end of the period and an asset account Prepaid Office Supplies would be debited this amount.

Many costs are recorded as prepaid expenses. Examples of these are:

Prepaid Insurance, often called Unexpired Insurance
Prepaid Rent
Prepaid Royalties
Supplies
Prepaid Salaries, often called Advances to Employees
Prepaid Advertising

Depreciation. *Depreciation may be briefly defined as the loss of some of the total service capacity of the physical plant and equipment.* The estimated cost of the services expired during an accounting period is recorded as depreciation. In some enterprises, especially in manufacturing enterprises, part of the cost recorded as depreciation may be a cost of future accounting periods. As stated before, this fact will be disregarded until manufacturing accounting is discussed.

The services of a truck are gradually consumed as the vehicle is used, and to some extent if it is idle. The total services obtainable from the truck may vary with the repair policy followed. Failure to make repairs when needed may reduce, whereas adequate repairs may increase, the total services obtained. But a time will eventually be reached when it will no longer be economical to operate the truck.

The physical deterioration of equipment is caused by its use, and the effects of the weather. Some equipment will deteriorate more rapidly when idle than when used. This is particularly true of wooden buildings in certain climates.

A desirable way to record depreciation is to determine first the total

services to be received from the equipment and next to estimate the portion of the services expired during an accounting period. For example, a machine might have a total productive capacity of 10,000 units over its entire life. If, during a year, 2,000 units were produced by this machine, one-fifth of the net cost of the machine (cost less the sales value of the machine when discarded) would be considered to be the depreciation for the period. Ordinarily we cannot accurately measure the total possible services from equipment or the amount used each period; consequently the general practice is to compute depreciation by assuming that the services of the plant and equipment expire in approximately the same amounts each year.

A machine purchased for $10,000, with an estimated life of 10 years, and an estimated salvage value of $500, would be depreciated one-tenth of $9,500, or $950 a year.[1] It is estimated that services which cost $950 will be consumed each year and that services which cost one-twelfth of $950 or $79.17 will be consumed each month. The depreciation may be computed from the following equation:

$$\text{Depreciation} = \frac{\text{Cost} - \text{salvage value of equipment when replaced}}{\text{Life of the equipment}}$$

From the preceding data:

$$\text{Depreciation} = \frac{\$10{,}000 - \$500}{10} = \$950.$$

The debit for depreciation is made to an account which will be descriptive of the type of the depreciation, and the credit is made to a reserve for depreciation account. Depreciation of machinery would be recorded by a debit to an account entitled Depreciation of Machinery and a credit to an account entitled Reserve for Depreciation of Machinery.

Depreciation of Machinery

1942 Dec.	31			950	00						

Reserve for Depreciation of Machinery

						1942 Dec.	31			950	00

At the end of the second year, the account Reserve for Depreciation of Machinery would have two credits of $950 each.

[1] The Bureau of Internal Revenue requires that salvage value be considered in computing depreciation for income tax purposes. However, this value is often so questionable and so indeterminate that it is often taken to be zero.

Reserve for Depreciation of Machinery

						1942					
						Dec.	31			950	00
						1943					
						Dec.	31			950	00

At the end of 10 years, the credits in this account should total $9,500. If at that time $500 is received for the machine, the $9,500 and the $500 would equal exactly the amount remaining in the asset account. The asset would be removed from the accounts by a debit to the account Reserve for Depreciation of Machinery and a credit to the Machinery account.

Accounts will be opened for depreciation of various assets, such as Depreciation of Office Equipment, Depreciation of Delivery Equipment, Depreciation of Sales Equipment, etc., and corresponding reserve accounts will be opened.

Obsolescence. The problem of allocating the costs of plant and equipment to revenue is further complicated by the fact that the plant and equipment may become obsolete. Buildings and equipment are said to be *obsolete* when, although in satisfactory physical condition, their use is no longer economical because something better is available to perform the service. Obsolescence is generally the result of technological developments.

If an asset is expected to become obsolete before the end of its physical life, the customary practice in accounting is to base depreciation upon the shorter period. If a machine with a physical life of 10 years will become obsolete in 5 years, the net cost of the machine is distributed over the 5-year period.

Depreciation and obsolescence are sufficiently important that these topics are covered much more thoroughly in Chapter XIX.

Depletion. Depletion is a term used to describe shrinkage of natural resources. When enterprises use up natural resources such as ore, oil, and timber, these resources are said to be depleted. The cost of such natural resources used up during an accounting period is called *depletion.* Some of the depletion recorded may be a cost of goods still on hand and consequently of sales of a later period, but for the present we are interested only in recording as an expense the cost of the natural resources used up.

If a mine containing an estimated ore body of 500,000 tons had cost $1,000,000, the estimated depletion would be $2 a ton. If 20,000 tons were mined during the period, the depletion for the period would be recorded as $40,000, thus:

Depletion of Ore Body

1944 Dec.	31			40,000	00						

Reserve for Depletion of Ore Body

						1944 Dec.	31			40,000	00

The balance of the Reserve for Depletion account will be deducted on the balance sheet from the asset to which it is related.

Accrued Expenses. Some costs of services used during an accounting period are not ordinarily recorded until they are paid. Entries are usually made for rent, interest, taxes, salaries, and wages only when the payment is made. Rent for December might be unpaid on December 31, but since the service was obtained in December and a liability for the rent exists, the rent expense should be recorded in December and the liability for the rent should also be recorded.

If, on December 31, rent of $200 for December is unpaid, an entry should be made to debit Rent Expense $200, and credit Accrued Rent Payable $200, as follows:

Rent Expense

1944 Dec.	31			200	00						

Accrued Rent Payable

						1944 Dec.	31			200	00

The debit for the expense is made to the same expense account as that to which rent paid has been debited.

In January, when the rent for December is paid, the debit would be made to the liability account, Accrued Rent Payable; or the readjusting entry method explained in Chapter XIII may be used.

When the end of an accounting period intervenes between salary and wage payments, adjusting entries should be made to record the expense in the proper period, and also to record the liability. If on Saturday, December 26, 19—, an enterprise which employed one salesman paid him $60, his salary for the week ending as of that day, the accrued sales salary on December 31 would be four-sixths of $60, or $40, and the following adjusting entry would be made:

Sales Salaries

19— Dec.	31			40	00						

Accrued Sales Salaries Payable

						19— Dec.	31			40	00

On January 2 the salesman would be paid $60, and of this amount $40 would be debited to Accrued Sales Salaries Payable and $20 to the Sales Salary Expense account for January.

The computation of the amount of the salary accrued on December 31 requires explanation. The computation was made in the preceding illustration by considering the week to be made up of six working days. Four working days remained in December, so four-sixths, or two-thirds, of a week's salary was an expense of December.

Another expense frequently unrecorded at the end of an accounting period is interest. The computation of accrued interest on notes payable is usually a computation of simple interest. If on December 31 the accrued interest must be computed on a 90-day 6 per cent note for $2,000 made out on December 1, the interest would be computed for 30 days. The first day is not counted, but each day thereafter is. After December 1 there are 30 days in December.

Bad Debts. When sales are made on credit, certain deductions should ordinarily be made from sales in order to avoid overstating the profit. Deductions may be made because of accounts receivable that will be bad, and because of discounts allowed to customers for payments made within a certain time. In addition it may be necessary to incur expenses in a subsequent period in order to collect accounts recorded in the current period. To match these deductions with the sales, it may be necessary to estimate the bad debts for the period, the discounts that will be granted customers, and the collection expenses that may be incurred. In this chapter the adjustment for bad debts will be discussed, and in Chapter XVIII those that are sometimes made better to match sales discounts and collection expenses with sales.

The percentage of the sales that will be uncollectible will vary with the care exercised in the selection of customers, the credit terms extended, and general business conditions. If the actual accounts that will become bad were known in the accounting period in which the sales were made, the problem would be simple, but many accounts will not be found to be bad until sometime in the future. The deduction from sales might be made

in the accounting period when the accounts were actually found to be bad, but the bad debts would not then be matched with the proper sales, and on the balance sheet the accounts receivable would be stated at an amount greater than they would realize in cash.

To match the bad debts better with revenue and to reduce the accounts receivable, accountants estimate the amount of the bad debts that should be deducted from the sales of each accounting period. Then an entry is made to debit an account Bad Debts and to credit an account Reserve for Doubtful Accounts. This matching is not exact, for the actual bad accounts which result from the sales will not be known until a later accounting period. However, this approximation is usually reasonably accurate and will generally result in greater accuracy than that obtained under any other method. It avoids such errors as the following: if the sales for two successive periods were $20,000 and $10,000, respectively, and the accounts were deducted from sales when the accounts were found to be bad, some bad accounts which should be deducted from the sales of $20,000 would be deducted from the sales of $10,000. Such discrepancies in the matching of bad debts with sales are avoided by estimating the bad debts at the end of each accounting period.

The accountant obtains the deduction for bad debts by first computing a percentage of bad debts to sales on account. This percentage is based on the average of accounts written off as bad in prior years. If the sales on account averaged $10,000 a year for a number of years, and if the bad debts averaged $100, the percentage of bad debts to sales would be taken as 1 per cent. But this percentage might not be strictly adhered to; when business conditions were bad, a higher percentage might be used. When the sales on account were $12,000, the bad debts for the period would be considered to be $120, and the following entry would be made:

Bad Debts

1944 Dec.	31			120	00						

Reserve for Doubtful Accounts

						1944 Dec.	31			120	00

The Reserve for Doubtful Accounts is, as explained in Chapter III, deducted from the Accounts Receivable on the balance sheet as follows:

Accounts Receivable	xxx	
Less: Reserve for Doubtful Accounts	xx	xxx

The Reserve for Doubtful Accounts serves the purpose of reducing

the amount of the Accounts Receivable. But as was explained in Chapter III this is not a fund or anything reserved.

It was also stated before that the percentage of bad debts to sales should be based on the credit sales. Theoretically, it should be based on credit sales less the sales returns and allowances, but in practice a percentage based upon the total sales may be satisfactory. This is true when the total of sales returns and allowances and cash sales always remains about the same percentage of sales.

At the end of an accounting period there will usually be a balance in the Reserve for Doubtful Accounts. If the percentage used is reasonably accurate, this balance should about equal the accounts receivable on the books which will become bad in the future. If the balance of the Reserve for Doubtful Accounts at the end of the period is \$100, the sales for the period \$30,000, and the percentage based on sales is 1 per cent, the debit to Bad Debts and the credit to the Reserve for Doubtful Accounts would be for \$300. Immediately after the adjusting entry was made the credit balance of the Reserve for Doubtful Accounts would be \$400, \$100 of which would be for sales on credit made in earlier periods.

When a customer's account is found to be uncollectible the balance of the account is written off by a debit to the Reserve for Doubtful Accounts and a credit to his account. A balance of \$32.25 of the John Jones account would be written off by debiting the Reserve for Doubtful Accounts \$32.25 and crediting the John Jones account with this amount as follows:

John Jones				Reserve for Doubtful Accounts			
1942		*1943*		*1943*		*1942*	
Nov. 6	32.25	May 8	32.25	May 8	32.25	Dec. 31	495.40

The debit is not made to the Bad Debts account because this account was debited an estimated amount at the end of each accounting period, and another debit to this account would result in duplication. Under the reserve method the Bad Debts account is debited an estimated amount at the end of each period and the Reserve for Doubtful Accounts is credited. When an account becomes uncollectible a debit is made to the reserve account and a credit is made to the customer's account as was done above. That is, credits are made to the Reserve for Doubtful Accounts at the end of each accounting period, and debits are made to this account as the bad accounts are written off.

Frequently a customer's account that was written off as bad is later collected. Such transactions may be recorded by a debit to Cash and a credit either to the Reserve for Doubtful Accounts or to an account

Bad Debts Recovered. The correct entry to make depends upon the original computation of the bad debts percentage. If the percentage was based upon the total accounts written off, the credit should be made to an account called Bad Debts Recovered. If the percentage was based upon the amount of the accounts written off less those recovered, the credit should be made to the Reserve for Doubtful Accounts. This will be explained in Chapter XVIII.

For the present it will be satisfactory to make such credits to the account Bad Debts Recovered. The Bureau of Internal Revenue ordinarily requires such collections to be reported as revenue for the period in which the collection is made, and the credit to the Bad Debts Recovered account records the collections in this way.

To record the collection on September 30 of $43.50 from Wm. Hart, whose account had been written off in a prior period, an entry would be made to debit Cash $43.50 and to credit Bad Debts Recovered $43.50, thus:

Cash				Bad Debts Recovered		
1942					*1942*	
Sept. 30	43.50				Sept. 30	43.50

A notation may be made in the Wm. Hart account to show that he had paid the balance he owed. Or, an entry may be made to bring the balance of the Wm. Hart account back on the books. This entry would be a debit to the Wm. Hart account and a credit to Bad Debts Recovered; a second entry would then be made to debit Cash and credit the Wm. Hart account.

Accrued Revenue. Certain revenues are not ordinarily recorded until collected. This is true of such miscellaneous revenues as rent, interest, commissions, and royalties. However, such revenues should be recorded in the period or periods in which the services for which they are received are rendered, as this results in a better matching of the revenues with costs. For example, the Union Enterprise Company rented a building to the Central Supply Company. The rent of $500 for December was uncollected by the Union Enterprise Company when the books were closed on December 31. Since the services were rendered during December, the rent revenue should be recorded in December; otherwise it would be recorded in a different period from that in which the services were rendered and the costs incurred in earning that rent.

When the end of an accounting period intervenes before the collection of such revenue an adjusting entry should be made. The uncollected rent of $500 should be recorded by the Union Enterprise Company on December 31, by a debit to Accrued Rent Receivable, an asset account, to

record the claim for the rent, and a credit to the Rent Revenue account to record the revenue. The entries in the ledger would be made as follows:

Accrued Rent Receivable

1944 Dec.	31			500	00						

Rent Revenue

						1944 Dec.	31			500	00

The reader will observe that the only difference between the preceding entry for accrued rent and the entry that would be made if the rent were collected is in the debit. The credit in both cases is to the account Rent Revenue. For instance, if rent of $300 had been collected on July 1, the entry would be:

Cash

1944 July	1			300	00						

Rent Revenue

						1944 July	1			300	00

If, in addition to the $300 now recorded, an additional $300 was earned but uncollected at the end of December, the debit would be to Accrued Rent Receivable and the credit to Rent Revenue. The Rent Revenue account would now have at least two credits as follows:

Rent Revenue

						1944 July	1			300	00
						Dec.	31			300	00

Other common examples of accrued revenue are:

Accrued Interest
Accrued Royalties
Accrued Commissions.

A word of explanation is necessary regarding interest, which legally is considered to accrue with the passing of time. If interest on bonds is

payable on November 1 and again on May 1, interest for 2 months is considered to be accrued on the intervening December 31, on which date one-third of a semiannual payment would be recorded as accrued interest. If a company received on December 1 a note receivable maturing in 90 days and bearing 6 per cent interest, interest for 30 days would be considered to be earned on December 31. This is not true of dividends on stock, even of those on preferred stock. Dividends are not recorded until they are declared, for they are not an obligation of an enterprise until that time. If at the end of an accounting period a dividend has been declared on stock owned, but is unpaid, the company should record this dividend as revenue. But if no dividend is declared, even though it is known that one is going to be declared, no revenue or asset is recorded.

Other types of accrued revenue, such as accrued royalties and accrued commissions, do not present any differences of principle. Royalties are usually based on the number of units sold or produced, and, although there may be some difficulties of computation, there are still no differences of principle. Since commissions are usually based on the amount of sales, their computation is relatively simple.

Unearned Revenue. Revenue may be recorded before the services for which it is received are rendered. This usually occurs when cash is received in one accounting period for services that will not be rendered until a later period. A common example is rent collected before it is earned. There are, however, instances where no cash is received but revenue is recorded before it is earned. A bank frequently discounts notes for its customers, recording at that time all of the discount, a portion of which is revenue of future accounting periods.

Revenue is considered earned as the services for which it is received are rendered. If a publishing company collected on January 1, 1944, subscriptions for 3 years in advance, one-third of the amount would be considered revenue of each of the 3 years. If $12,000 were so collected the Cash account would be debited $12,000 and an account Prepaid Subscriptions, Unearned Subscriptions, or Deferred Subscription Revenue would be credited, thus:

Cash

1944 Jan.	1			12,000	00						

Unearned Subscriptions

						1944 Jan.	1			12,000	00

When the accounting period is one year ending on December 31, an entry would be made on that date to debit the Unearned Subscriptions account $4,000 and credit the Subscription Revenue account $4,000:

Unearned Subscriptions

1944						*1944*					
Dec.	31			4,000	00	Jan.	1			12,000	00

Subscription Revenue

						1944					
						Dec.	31			4,000	00

When the accounting period is one month, the amount earned each month would be recorded as revenue.

A publishing company must incur considerable expense before such subscriptions are earned, for example, the cost of publishing the magazine.

Another common example of unearned revenue is rent collected in advance. For example, on December 8, 1944, $400 is collected for rent for the month of December and the first 3 months of 1945; the costs of earning this rent and the costs of providing the services of the building for 3 months will not be incurred until 1945. This entire $400 should not be shown as revenue of December, but only the amount earned during that month, $100. The remaining $300 is properly carried over to the next accounting period as unearned rent.

When received, the $400 might have been recorded as Unearned Rent Revenue as follows:

Cash

1944											
Dec.	8			400	00						

Unearned Rent Revenue

						1944					
						Dec.	8			400	00

The adjusting entry would be a debit of $100 to Unearned Rent Revenue and a credit of $100 to Rent Revenue:

Unearned Rent Revenue

1944						*1944*					
Dec.	31			100	00	Dec.	8			400	00

Rent Revenue

						1944 Dec.	31			100	00

When the rent was collected on December 8, 1944, the debit might have been made to Cash and the credit to Rent Revenue as follows:

Cash

1944 Dec.	8			400	00						

Rent Revenue

						1944 Dec.	8			400	00

The adjusting entry would then be a debit of $300 to Rent Revenue and a credit of $300 to Unearned Rent Revenue.

Rent Revenue

1944 Dec.	31			300	00	*1944* Dec.	8			400	00

Unearned Rent Revenue

						1944 Dec.	31			300	00

The results are the same under each method. Rent Revenue is credited $100 and the balance of the Unearned Rent Revenue account is $300. The account Unearned Rent Revenue is shown on the liability side of the balance sheet, ordinarily as a current liability.

Auditors watch carefully for revenue that is unearned, for the statement of profit and loss may be decidedly misleading if revenue is recorded in a period before it is earned.

Other Adjusting Entries. Other adjusting entries sometimes made are those for:

- Sales discounts
- Credit and collection expenses
- Social security taxes
- Purchase discounts

An adjusting entry is sometimes made to record the estimated discounts that will be taken by customers in the next accounting period on sales made on credit during the current period. This entry and the similar one

to record the estimated cost of collecting the uncollected accounts for the period will be discussed in Chapter XVIII.

The adjusting entries required to record social security taxes are explained in Chapter XXI.

Certain methods of recording purchase discounts necessitate adjusting entries. One of these methods and the adjusting entry required are explained in Chapter XVIII.

Adjustments Illustrated. The balances of the asset accounts of Elliot Stone on January 1, 1944, were: Cash, $5,000; Accounts Receivable, $8,500; Reserve for Doubtful Accounts, $275; Supplies, $300. There were no liabilities. The transactions for January were:

Jan.	1	Purchased a truck, $900 cash.
	1	Purchased insurance for 1 year, $60 cash.
	1–31	Revenue from services, $800 on credit; all rendered for Winton Bros. and entered on January 31. (Winton Bros. is the only account receivable.)
	31	Sales salaries paid, $175.
	31	Office expenses paid, $150.
	31	Collected from Winton Bros., $300.

Adjustments are to be made on January 31 to record the following information:

Supplies on hand, January 31, $100.
Depreciation of the truck, $25.
Expired insurance, $5.
Unpaid taxes, $25.
Bad debts, estimated to be $38.

The entries are made in the following ledger accounts. These entries are designated as follows for identification:

Opening Entries (O).
Current Transaction (C).
Adjustments (A).

Cash

1944						*1944*					
Jan.	1	(O)		5,000	00	Jan.	1	(C1)		900	00
	31	(C4)		300	00		1	(C2)		60	00
				5,300	00		31	(C5)		175	00
							31	(C6)		150	00
										1,285	00

Winton Bros.

1944						*1944*					
Jan.	1	(O)		8,500	00	Jan.	31	(C4)		300	00
	31	(C3)		800	00						
				9,300	00						

Reserve for Doubtful Accounts

						1944					
						Jan.	1	(O)		275	00
							31	(A5)		38	00
										313	00

Supplies

1944						*1944*					
Jan.	1	(O)		300	00	Jan.	31	(A1)		200	00

Prepaid Insurance

1944						*1944*					
Jan.	1	(C2)		60	00	Jan.	31	(A3)		5	00

Delivery Equipment

1944											
Jan.	1	(C1)		900	00						

Reserve for Depreciation of Delivery Equipment

						1944					
						Jan.	31	(A2)		25	00

Accrued Taxes Payable

						1944					
						Jan.	31	(A4)		25	00

Elliot Stone, Proprietorship

						1944					
						Jan.	1	(O)		13,525	00

Revenue

						1944					
						Jan.	31	(C3)		800	00

Sales Salary Expense

1944											
Jan.	31	(C5)		175	00						

Office Expense

1944											
Jan.	31	(C6)		150	00						

Tax Expense

1944 Jan.	31	(A4)		25	00							

Depreciation of Delivery Equipment

1944 Jan.	31	(A2)		25	00							

Insurance Expense

1944 Jan.	31	(A3)		5	00							

Supply Expense

1944 Jan.	31	(A1)		200	00							

Bad Debts

1944 Jan.	31	(A5)		38	00							

The following is the trial balance after adjusting entries have been made:

Elliot Stone

Trial Balance after Adjusting Entries
January 31, 1944

Cash	$ 4,015.00	
Winton Bros.	9,000.00	
Reserve for Doubtful Accounts		$ 313.00
Supplies	100.00	
Prepaid Insurance	55.00	
Delivery Equipment	900.00	
Reserve for Depreciation of Delivery Equipment		25.00
Accrued Taxes Payable		25.00
Elliot Stone, Proprietorship		13,525.00
Revenue		800.00
Supply Expense	200.00	
Sales Salary Expense	175.00	
Office Expense	150.00	
Tax Expense	25.00	
Bad Debts	38.00	
Depreciation of Delivery Equipment	25.00	
Insurance Expense	5.00	
	$14,688.00	$14,688.00

The statement of profit and loss for January, 1944, is now made up from this trial balance:

Elliot Stone

Statement of Profit and Loss
Month Ending January 31, 1944

Revenue		$800.00
Operating Expenses:		
Sales Salary Expense	$175.00	
Supply Expense	200.00	
Office Expense	150.00	
Tax Expense	25.00	
Bad Debts	38.00	
Insurance Expense	5.00	
Depreciation of Delivery Equipment	25.00	618.00
Operating Profit		$182.00

The balance sheet as of January 31, 1944, is made up after the closing entries are made:

Elliot Stone

Balance Sheet
January 31, 1944

Assets			*Liabilities and Proprietorship*		
Cash		$4,015.00	Accrued Taxes		$25.00
Accounts Receivable	$9,000.00		Elliot Stone, Proprietorship	$13,525.00	
Less: Reserve for Doubtful Accounts	313.00	8,687.00	Profit	182.00	13,707.00
Supplies		100.00			
Prepaid Insurance		55.00			
Delivery Equipment	$900.00				
Less: Reserve for Depreciation of Delivery Equipment	25.00	875.00			
		$13,732.00			$13,732.00

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What are adjusting entries?

2. Name five different types of adjusting entries.

3. The balance of the Prepaid Insurance account is $900 on December 31, 1945, before the adjusting entries are made. This insurance was purchased on January 1, 1945, for 3 years. Give the entry to record the insurance expense for the year 1945. Ordinarily the cost of the insurance expired is considered an expense; might there be any circumstances under which all of this cost of the expired insurance might not be an expense?

4. How would you record the payment of $60 on July 1 for fire insurance for one year from that date? The accounting period ends on December 31.

5. If you made the debit in question 4 to an asset account, justify this entry.

6. Office supplies were purchased for $150 cash during an accounting period. Give your entry to record the purchase of the supplies, and the adjusting entry you would

make at the end of the accounting period when supplies that cost $50 were still on hand. There were no office supplies on hand at the beginning of the period.

7. The sales supplies on hand on January 1 cost $50. Sales supplies were purchased during the year for $200. Sales supplies which cost $75 were on hand at the end of the year. If the debits for the sales supplies were made to an asset account Sales Supplies, what adjusting entry would you make? If the debits for the sales supplies were made to an account Sales Supply Expense, what adjusting entry would you make?

8. Define depreciation.

9. Are the depreciation expenses for a period determined by computing the decrease in the sales price of buildings and equipments?

10. A machine with an estimated life of 10 years cost $12,500. It was believed that this machine would have a scrap value of $500 at the end of 10 years. What amount of depreciation would you record each year?

11. On December 31, 1942, the account Reserve Depreciation of Delivery Equipment had a balance of $1,400 before the adjusting entries were made. Why would this account ordinarily have a balance?

12. Is a reserve for depreciation account a fund of cash?

13. Why are the entries that are made in reserve for depreciation accounts not made on the credit side of asset accounts?

14. Would one depreciation expense account and one reserve for depreciation account be satisfactory for most enterprises?

15. Define depletion.

16. During 1942 the Timberton Company used 22,000,000 feet of 500,000,000 feet of timber purchased in 1935 for $1,500,000. What entry would you make for the 1942 depletion?

17. The sales for 1944 were $50,000. The bad debts were estimated to be 1 per cent of sales. What entry would you make on December 31 for the bad debt expense for 1944? If the Reserve for Doubtful Accounts had a balance of $100 on that date, would your answer be any different? To what would this balance of $100 apply?

18. Would bad debts be better matched with sales by basing the bad debts on sales or on accounts receivable?

19. How would you arrive at the percentage to use for bad debts?

20. Should this percentage be based on gross sales, net sales, gross credit sales, or net credit sales?

21. What entry would you make to write off Wm. White's balance of $75, which you decided was uncollectible?

22. If in a later accounting period Wm. White's balance of $75, which had been written off, was collected, what entry would you make?

23. Define an accrued expense.

24. On December 31, B. W. Joyner owed Smith and Bronson rent of $300 for December. What entry would you make to record this rent on the books of Smith and Bronson on December 31?

25. On Monday, December 28, salaries were paid for the 2-week period ending December 28. Make the entry on December 31 to record an unpaid sales salary of a salesman who receives $50 per week.

26. A 90-day note payable for $500 was issued on November 1, 1944. Interest is at the rate of 4 per cent per year. Make the adjusting entry on December 31, 1944.

27. On December 31, A. B. Butcher owed the Brunton Co. rent of $200 for Decem-

ber. Would you make any entry to record this rent on December 31? If so, give the entry.

28. On December 1 the Norton Company received a $1,000, 90-day, 5 per cent note receivable. Give the entry you would make on December 31.

29. On December 1, 1944, rent for January, February, and March, of $300 a month, a total of $900, was collected. Give the entry that you would make to record the receipt of the rent.

30. (a) On December 1 your company paid $300 which was 3 months' rent in advance. Give the entry you would make on December 1 and on December 31.

(b) On December 31 your company had earned $100 rent but had not collected it. Give the entry you would make on December 31.

(c) On December 1 your company collected rent of $400. Of this amount $200 was for December and $200 was for the last month of the lease, which was dated December 1 and was for one year. Give the entries you would make on December 1 and December 31

LABORATORY PROBLEMS

1. Do parts (a), (b), and (c) on one side of unruled paper.

(a) The following were the balances of certain accounts on December 31, 1944. Enter these balances in T accounts.

Prepaid Insurance	$ 72	Sales Supplies	$180
Rent Paid in Advance	300	Office Supplies	60

Make the adjusting entries from the following information:

The insurance prepaid on December 31 was $16.

Of the rent of $300 paid in advance, $150 was for December, 1944, and $150 for January, 1945.

The sales supplies on hand cost $60.

The office supplies used during 1944 cost $45.

(b) On January 1 of each year the Oil Exploration Company was required to pay royalties of 20 cents a barrel on the estimated production for that year. Unearned royalties were to apply to the following year. On January 1, 1942, the Oil Exploration Company paid R. T. Sims, owner of the oil land, $200,000 representing royalties on 1,000,000 barrels which it was estimated would be produced in 1942; the $200,000 was debited to Prepaid Royalties. On December 31, 1942, Mr. Sims was informed that 800,000 barrels of oil had been produced during 1942. What entry would be made on December 31, 1942, on the books of the Oil Exploration Company?

(c) The following are the balances of certain accounts as of December 31, 1942; open T accounts and enter these balances:

Land	$10,000	Delivery Equipment	$2,500
Buildings	50,000	Office Equipment	1,800

From the following information make the adjusting entries on December 31, 1942:

The depreciation for the year is estimated to be 2 per cent of the cost of the buildings, 20 per cent of the cost of the delivery equipment, and 10 per cent of the cost of the office equipment.

The accounting period is one year.

2. On one side of one sheet of unruled paper do parts (a), (b), and (c).

(a) The following were the balances of certain accounts on December 31, 1942; open T accounts and enter these balances:

Buildings	$25,000
Reserve for Depreciation of Buildings	8,000
Machinery and Equipment	15,000
Reserve for Depreciation of Machinery and Equipment	9,000

The depreciation for 1942 was estimated to be 5 per cent of the cost of the buildings and 10 per cent of the cost of the machinery and equipment. Make the adjusting entries as of December 31, 1942. The accounting period is one year.

(b) Make the adjusting entries required from the following information for the year 1942:

On December 31, 1942, your company had outstanding a 60-day, 6 per cent note payable of $800 which was issued on December 1.
On December 31, 1942, your company owed office employees $150.
You estimated that the property tax expense for the year would be $250.
Your company owed rent of $300 for December.

3. Draw a vertical line down the center of a sheet of paper and on the left-hand side of this line give the name of the account to be debited and the amount, and on the right-hand side of the line the name of the account to be credited and the amount. Do parts (a) and (b) on this sheet.

(a) Make the adjusting entries as of December 31, 1942, on the books of the Merton Co. from the following:

The Merton Co. held a 90-day, 4 per cent note receivable for $720 which it received on November 11.
The Merton Co. had an investment of $10,000 in bonds of the Armton Company. Interest at 4 per cent per year was paid on these bonds on May 1 and November 1 of each year.
The Merton Co. estimated that its taxes for 1942 would be $2,500.
The Merton Co. had earned rent of $300 for December which it had not collected.
Interest unpaid on notes payable amounted to $75 on December 31, 1942.

(b) On January 1, 1944, $260 was collected by the Easter Publishing Company for subscriptions for the year. On January 31, 1944, the books were to be adjusted and closed. Give the debit and credit you would make to record the collection of the subscriptions. Give the debit and credit you would make for the adjusting entry at the end of January if one-twelfth of the subscriptions were for January.

4. (a) The following were the balances of accounts as of December 31, 1944:

Reserve for Doubtful Accounts	$100
Prepaid Insurance	195
Sales Supplies	240
Reserve for Depreciation of Delivery Equipment	800
Unearned Rent	300
Sales Salary Expense	400
Interest Revenue	125

In two vertical columns similar to those used in problem 3 give the debits and credits for the adjusting entries that would be made from the following information:

The bad debts were estimated to be 0.5 per cent of the net sales of $55,000.
The insurance expired during 1944 was $115.

The sales supplies on hand amounted to $110.
The depreciation of the delivery equipment was estimated to be 4 per cent of the cost of the equipment, which was $3,000.
The unearned rent on December 31 was $100.
Unpaid sales salaries for 1944 were $75.
Interest of $25 was earned but uncollected on notes receivable.

(b) The following were the balances of accounts on June 30, 1942:

Reserve for Doubtful Accounts	$ 2,200
Reserve for Depreciation of Office Equipment	2,500
Reserve for Depreciation of Delivery Equipment	1,800
Reserve for Depreciation of Buildings	8,000
Prepaid Insurance	540
Sales Supplies	210
Office Supplies	160
Sales Salaries	18,000
Office Salaries	4,800

On the same sheet of paper as was used for part (a), give the debits and credits for the adjusting entries that would be made from the following information:

Estimated depreciation:
Depreciation of office equipment, 5 per cent on the cost of $6,500.
Depreciation of delivery equipment, 12.5 per cent on the cost of $6,000.
Depreciation of the buildings, 2 per cent on the cost of $100,000.
The bad debts for the period were estimated to be 0.5 per cent of the sales of $500,000.
The prepaid insurance was $320 on June 30.
Sales supplies on hand, cost $115.
Office supplies on hand, cost $60.
Unpaid sales salaries, $600.
Unpaid office salaries, $200.
Interest earned but uncollected, $220.
Estimated taxes for one-half year, $110.

5. On July 1, 1944, A. R. Stevens started business with cash of $5,000 and a building valued at $8,500. Insurance for one year was purchased on July 1 for $60 cash. Open T accounts (you will need 14 accounts) and enter the following transactions, including the adjusting entries:

Services were rendered for $3,800 on credit to Jones and Salvo Co.
Sundry expenses of $115 were paid.
Selling expenses of $225 were paid.

Adjusting information:
Bad debts, 3 per cent of revenue.
Depreciation, 0.5 per cent of the cost of the building.
Insurance for one month had expired.
Unpaid sundry expenses amounted to $35.

6. (a) On one sheet of paper open T accounts and make entries for all the transactions, including the adjusting entries. Mr. Fred Hule started business on January 1, 1944, with cash of $4,200 and investments of $3,500 which he turned over to the business. The following transactions are to be entered as of January 31:

Services rendered on credit to Wilson Bros., $2,850.
Advertising expenses paid, $75.

Office expenses paid, $150.
Shop supplies purchased, $60 cash.
Insurance for one year purchased, $72 cash.

Adjusting information:
Bad debts, 2 per cent of the revenue.
Expired insurance, $6.
Shop supplies on hand, $35.
Unpaid advertising expense, $20.
Unpaid office expenses, $25.
Interest earned but uncollected on investments, $12.

(b) On the other side of the sheet of paper used for part (a), prepare a trial balance as of January 31.

7. Mr. Stan Lewis started business on May 1, 1944, with $4,200 cash, buildings and equipment valued at $15,000, and a note payable of $1,500. The transactions for the period were:

Services rendered on credit to Harper Bros., $3,800.
Collected from Harper Bros., $1,350.
Shop salaries paid, $275.
Office salaries paid, $135.
Sundry office expenses paid, $22.
Supplies purchased for cash for the office, $65.
Shop supplies purchased for cash, $80.
Insurance for one year purchased for cash, $72.

Adjusting information:
Shop supplies on hand, $25.
Office supplies on hand, $35.
Unexpired insurance, $55.
Depreciation of building and equipment, 1 per cent of $15,000.
Estimated bad debts, 1 per cent of revenue.
Unpaid sundry office expense, $25.

Make all the entries including adjusting entries, dating all the entries except the opening entries as of May 31. Open T accounts on one page.

8. Mr. A. E. Calden leased the Eagle Ice Arena for 10 years at a rental of $400 a month for each of the months from November 1 to February 28. On November 1, 1943, he deposited $3,000 cash to the credit of the Eagle Amusement Co., the name under which he was going to operate the arena. He hired two engineers at salaries of $200 per month each, and three other employees each of whom was to be paid $125 a month.

You will need the following accounts on standard form ledger paper, for which you should allow the number of lines shown in the parentheses after each account: Cash (20), Supplies (3), Prepaid Rent (4), Machinery and Equipment (3), Reserve for Depreciation of Machinery and Equipment (3), Improvements (4), Alterations (4), Notes Payable (3), Accrued Interest Payable (3), Accrued Taxes Payable (3), Eagle Amusement Co., Proprietorship (5), Skating Revenue (16), Revenue from Concessions (5), Supplies Used (3), Power and Light (3), Advertising Expenses (5), Engineering Salaries (6), Sundry Salaries (5), Rent Expense (3), Ticket Expense (3), Insurance Expense (3), Depreciation of Improvements and Alterations (5), Depreciation of Machinery and Equipment (3), Tax Expense (3), Interest Expense (3).

The transactions for November were:

Nov. 15 Improvements were made by Hulbert Contracting Co. for $2,550.60; a check for $1,000 was given this company and a 90-day 6 per cent note for the balance. Paid $75 for November tickets. Collected $100 as rent of food concessions for November.

16 Collected skating revenue, $266.10. Paid salaries for one-half month.

17 Collected skating revenue, $220.65. Paid liability insurance for November, $38.90. Purchased supplies for $735.60 cash.

18 Collected skating revenue, $215.60. Paid advertising of $37.85 for November.

19 Collected skating revenue, $225.30. Paid cost of alterations, $500; the alterations will be used for the season only.

20 Collected skating revenue, $105.10. Paid rent for November, December, and January. The length of the accounting period is one month.

21 Collected skating revenue, $125.40. Collected $50 from skate shop concession.

22 Collected skating revenue, $95.60.

23 Collected skating revenue, $175.40.

24 Collected skating revenue, $150.50.

25 Collected skating revenue, $215.60. Purchased an ice-grading machine for $287.50 cash; this machine should last 4 years.

26 Collected skating revenue, $235.80.

27 Collected skating revenue, $106.85. Paid advertising of $25.50 for November.

28 Collected skating revenue, $86.20.

29 Collected skating revenue, $175.50.

30 Collected skating revenue, $180.30. Paid salaries. Paid light and power bill of $238.25 for November.

Make the adjusting entries from the following information:

The improvements will be used for 5 years.

Depreciation of alterations, $125. Depreciation of the machinery and equipment during November, $25.

Accrued interest?

Accrued taxes are estimated to be $75.90.

Supplies on hand, $233.60.

(a) You are required to make all the entries, including the adjusting entries.

(b) Make up a trial balance, a statement of profit and loss, and a balance sheet.

CHAPTER VII. CLOSING THE BOOKS. CHANGES IN PROPRIETORSHIP

Closing the Books. As already stated, the purpose of the revenue and expense accounts is to segregate the revenues and the different expenses, not only to facilitate the preparation of a statement of profit and loss, but also to make available information for many other purposes. When these accounts have been adjusted to provide the amount of the revenues and expenses for the accounting period, their balances are removed. This clears the accounts so that they are available for recording the revenue and expenses of the next period.

At the end of the accounting period, when the balances are removed from the revenue and expense accounts, they are summarized in an account called the *Profit and Loss Summary* account, or the *Profit and Loss* account, the balance of which is closed to the proprietorship account. *This process of removing the balances from the revenue and expense accounts, summarizing the balances in an account called the Profit and Loss Summary account, the balance of which is removed to the proprietorship account, is called closing the books, closing the accounts, or closing the profit and loss accounts, or closing the revenue and expense accounts.* Asset, liability, and other balance sheet accounts are not closed. These accounts, which have balances representing the amount of each asset and each liability, may be ruled and the balances carried forward, but they are still open accounts. They are usually ruled as explained in Chapter IV, and the balances are carried forward at the end of each accounting period.

A simple illustration of the fundamentals of the closing procedure is now given, using the revenue and expense accounts on the books of Arthur Jones, which are as follows:

Repair Revenue

						1944 Jan.	31			600	00

Rent Expense

1944 **Jan.**	**31**			200	00						

Salary Expense

1944 Jan.	31			150	00						

Sundry Expense

1944 Jan.	31			75	00						

The balance is removed from the Repair Revenue account by placing a debit in this account and a credit in the Profit and Loss Summary account. The balance is removed from the expense accounts by placing a credit in each expense account and a debit, or debits, in the Profit and Loss Summary account. After the revenue and expense accounts of Arthur Jones are closed to the Profit and Loss Summary account, these accounts would appear as follows:

Repair Revenue

1944 Jan.	31	To p and l		600	00	1944 Jan.	31			600	00

Rent Expense

1944 Jan.	31			200	00	1944 Jan.	31	To p and l		200	00

Salary Expense

1944 Jan.	31			150	00	1944 Jan.	31	To p and l		150	00

Sundry Expense

1944 Jan.	31			75	00	1944 Jan.	31	To p and l		75	00

Profit and Loss Summary

1944 Jan.	31			200	00	1944 Jan.	31			600	00
	31			150	00						
	31			75	00						

The balances of all revenue accounts, such as Sales, Rent Revenue, and Interest Revenue, are entered on the credit side of the Profit and Loss

Summary account, and the balances of the expense accounts are entered on the debit side of this account. The difference between the total of the debits and the total of the credits in this account is the profit or loss for the period. If the credit total is the greater, the difference is a profit; if the debit total is the greater, the difference is a loss.

The Profit and Loss Summary account is closed by a debit or credit transferring the balance to proprietorship. If the credit total is the greater, as when a profit is made, a debit is made in the Profit and Loss Summary account, and the corresponding credit is made in the proprietorship account; but if the debit total is the greater, a credit is placed in the Profit and Loss Summary account and a corresponding debit in the proprietorship account.

The credit total of the preceding Profit and Loss Summary account is greater than the debit total by $175. This account is closed by placing a debit of $175 in the account and a credit of $175 in the Arthur Jones, Proprietorship account as follows:

Profit and Loss Summary

1944						*1944*					
Jan.	31			200	00	Jan.	31			600	00
	31			150	00						
	31			75	00						
	31			175	00						
				600	00					600	00

Arthur Jones, Proprietorship

						1944					
						Jan.	1	Balance		xxx	xx
							31			175	00

This procedure is exactly what one would expect, for it was explained in Chapter V that revenue accounts may be considered to be accounts recording increases in proprietorship, and increases in proprietorship are recorded by credits. When expenses are deducted from revenue, the difference so obtained represents a change in the proprietorship account. The reason for this procedure will be still more evident after the student has read the section in this chapter on How Profits and Losses Affect the Asset and Liability Accounts.

Illustration. A simple but more complete illustration is now given. Mr. W. Wilks started a plumbing business by depositing $800 cash in the bank on May 1, 1944, to the credit of the business. During May the following were the transactions:

May 16 Paid a helper a salary of $100 for May. Purchased a secondhand truck for $400 cash.
18 Paid an office clerk a salary of $75 for May.
20 Paid rent of $50 for May.
31 Collected $500 for services rendered during May.

The first entry is that to record the investment of $800 cash in the enterprise. A debit of $800 is made in the Cash account and a credit of $800 in the W. Wilks, Proprietorship account. This is entry (1) in the ledger accounts that follow this analysis of the transactions.

The payment of $100 to a helper for his salary for May is recorded by a debit of $100 to an expense account and a credit of $100 to the Cash account. The debit is to an account given a title which will describe the type of the expense. The title Shop Salary Expense is satisfactory. This is entry (2) in the ledger accounts.

The purchase of a truck for $400 cash is recorded by a debit to an account, Equipment, and a credit to Cash. This is entry (3) in the ledger accounts.

The payment of $75 to an office clerk for his May salary, entry (4) in the ledger accounts, is a debit to Office Salary Expense and a credit to Cash.

The payment of $50 for rent, entry (5) in the ledger accounts, is a debit to the Rent Expense account and a credit to Cash.

The collection of $500 for services rendered is recorded by an entry to debit the Cash account and credit a revenue account Repair Revenue. This is entry (6) in the ledger accounts that follow.

The depreciation of the truck is estimated to be $25 for the last half of May. This is recorded by an adjusting entry to debit Depreciation of Equipment and credit a Reserve for Depreciation of Equipment account —entry (7).

Taxes for May are estimated to be $15. Entry (8) is made to debit Tax Expense $15 and credit Accrued Taxes Payable $15.

Cash

1944						*1944*					
May	1	(1)		800	00	May	16	(2)		100	00
	31	(6)		500	00		16	(3)		400	00
							18	(4)		75	00
							20	(5)		50	00

Equipment

1944											
May	16	(3)		400	00						

Reserve for Depreciation of Equipment

						1944					
						May	31	(7)		25	00

Accrued Taxes Payable

						1944 May	31	(8)		15	00

W. Wilks, Proprietorship

						1944 May	1	(1)		800	00

Repair Revenue

						1944 May	31	(6)		500	00

Shop Salary Expense

1944 May	16	(2)		100	00						

Office Salary Expense

1944 May	18	(4)		75	00						

Rent Expense

1944 May	20	(5)		50	00						

Depreciation of Equipment

1944 May	31	(7)		25	00						

Tax Expense

1944 May	31	(8)		15	00						

The $500 credit balance in the Repair Revenue account is now removed by placing a debit of $500 in the Repair Revenue account and a credit of $500 in the Profit and Loss Summary account. This transfers the balance of the Repair Revenue account to the credit side of the Profit and Loss Summary account.

The balances in the expense accounts are now removed by placing credits in these accounts and debits in the Profit and Loss Summary account.

These accounts would now appear as follows. The closing entries are lettered for identification.

Repair Revenue

1944						*1944*					
May	31	(A)		500	00	May	31	(6)		500	00

Shop Salary Expense

1944						*1944*					
May	16			100	00	May	31	(B)		100	00

Office Salary Expense

1944						*1944*					
May	18			75	00	May	31	(C)		75	00

Rent Expense

1944						*1944*					
May	20			50	00	May	31	(D)		50	00

Tax Expense

1944						*1944*					
May	31			15	00	May	31	(E)		15	00

Depreciation of Equipment

1944						*1944*					
May	31			25	00	May	31	(F)		25	00

Profit and Loss Summary

1944						*1944*					
May	31	(B)		100	00	May	31	(A)		500	00
	31	(C)		75	00						
	31	(D)		50	00						
	31	(E)		15	00						
	31	(F)		25	00						
	31	(G)		235	00						
				500	00					500	00

W. Wilks, Proprietorship

						1944					
						May	1			800	00
							31	(G)		235	00

The closing entries were made as follows:

(A) A debit of $500 was placed in the Repair Revenue account, with a corresponding credit of $500 in the Profit and Loss Summary account.
(B) A credit of $100 was placed in the Shop Salary Expense account, with a corresponding debit of $100 in the Profit and Loss Summary account.
(C) A credit of $75 was made in the Office Salary Expense account, with a corresponding debit of $75 in the Profit and Loss Summary account.
(D) A credit of $50 was made in the Rent Expense account, with a corresponding debit in the Profit and Loss Summary account.
(E) A credit of $15 was made in the Tax Expense account, with a corresponding debit in the Profit and Loss Summary account.
(F) A credit of $25 was made in the Depreciation of Equipment account, with a corresponding debit in the Profit and Loss Summary account.
(G) A debit of $235 was placed in the Profit and Loss Summary account, with a corresponding credit in the W. Wilks, Proprietorship account. This entry is made to close the amount of the profit for the period to the proprietorship account.

These closing entries remove the balances from the revenue and expense accounts. *After the books are closed, the only accounts with balances are the asset, the reserve, the liability, and the proprietorship accounts.* In the preceding simplified illustration the only accounts with balances after closing are the following accounts: Cash, Equipment, Reserve for Depreciation of Equipment, Accrued Taxes Payable, and W. Wilks, Proprietorship.

Only a few revenue and expense accounts were used in this illustration, but the fundamentals are the same when many are used.

A few common revenue and expense accounts are:

Sales	Office Salary Expense
Cost of Goods Sold (Cost of Sales)	Office Supplies Used
Sales Salary Expense	Insurance Expense
Sales Commissions	Tax Expense
Sales Supplies Used	Interest Expense
Traveling Expenses	Telephone and Telegraph Expense
Advertising Expenses	Heat and Light
Freight Out	Depreciation of Sales Equipment
Delivery Wages	Depreciation of Delivery Equipment
Delivery Supplies—Gasoline, Oil	Depreciation of Office Equipment

The number of accounts used will depend, as explained before, upon the needs of the business. Whenever it is desired to segregate certain information, an account is opened for this purpose.

Ruling the Profit and Loss Accounts. After the books are closed many of the revenue and expense accounts will have one entry on each side. Such accounts may be ruled as below:

Sales

1942						*1942*					
Jan.	31	To p and l		5,000	00	Jan.	31			5,000	00

Rent Expense

1942						*1942*					
Jan.	25			100	00	Jan.	31	To p and l		100	00

This is one of the many satisfactory ways of ruling such accounts—by drawing double lines below the two amounts. These lines rule the amounts off so that they will not enter into the totals for the next period.

When several amounts are entered in an account the customary ruling is a little more complicated, as is illustrated in the accounts below:

Sales

1942						*1942*					
Jan.	31	To p and l		2,800	00	Jan.	8			700	00
							16			800	00
							23			600	00
							31			700	00
				2,800	00					2,800	00

Sales Salary Expense

1942						*1942*					
Jan.	7			100	00	Jan.	31	To p and l		450	00
	14			100	00						
	21			100	00						
	28			100	00						
	31			50	00						
				450	00					450	00

When the closing entry is posted to an account, it is entered on the first vacant line of that account and equalizes the totals of both the debit and credit columns. The total of the longer column is written in on the first line below that amount, and the total of the other column is entered on the same line. For example, in the Sales account which precedes this paragraph, the total, 2,800, of the credit column is written in on the line below the last amount in that column, and on that same line this total is entered in the debit column. A single line is ruled in above the totals to denote addition, and duplicate lines are drawn under the totals and across all the space but the explanation columns to indicate that the account has been balanced.

Other Temporary Proprietorship Accounts. Revenue and expenses may not account for all the changes in the proprietorship account during an accounting period. The proprietor may decide to add to his investment in

the business or withdraw funds from the business, thereby changing the proprietorship.

For the withdrawals made by the proprietor an account called the *personal* or *drawing* account is usually used, its only purpose in an individual proprietorship being to keep detail out of the proprietorship account. The balance of this account may be closed to the proprietorship account at any time, but this is usually done at the end of the accounting period. Frequently, the balance of the Profit and Loss Summary account is closed to the personal account, and the balance of the latter is then closed to the proprietorship account.

The balance of the J. Raynes, Proprietorship account was $3,300 on January 1. The drawings for the period were $125, $150, $175, and $200, and the profit was $895. The drawings might all be recorded in the J. Raynes, Proprietorship account, and the profit closed from the Profit and Loss Summary account to the J. Raynes, Proprietorship account. This is done by making a debit in the Profit and Loss Summary account and a credit in the J. Raynes, Proprietorship account. The J. Raynes, Proprietorship account would then appear as follows:

J. Raynes, Proprietorship

1942						*1942*					
Feb.	8	Withdrawal		125	00	Jan.	1	Balance	√	3,300	00
June	1	Withdrawal		150	00	Dec.	31	From p and l		895	00
Sept.	1	Withdrawa.		175	00						
Oct.	7	Withdrawal		200	00						
Dec.	31	Balance	√	3,545	00						
				4,195	00					4,195	00
						1943					
						Jan.	1	Balance	√	3,545	00

The only objection to this method is the amount of detail recorded in the proprietorship account. By the use of the personal or drawing account this detail may be kept out of the proprietorship account. In the accounts below, the drawings for the period have been debited to the J. Raynes, Personal account and the profit was closed to this account, the balance of which was closed to the J. Raynes, Proprietorship account.

J. Raynes, Proprietorship

1942						*1942*					
Dec.	31	Balance	√	3,545	00	Jan.	1			3,300	00
						Dec.	31			245	00
				3,545	00					3,545	00
						1943					
						Jan.	1	Balance	√	3,545	00

J. Raynes, Personal

1942						*1942*					
Feb.	8			125	00	Dec.	31	Profit		895	00
June	1			150	00						
Sept.	1			175	00						
Oct.	7			200	00						
Dec.	31			245	00						
				895	00					895	00

The argument advanced for this method is that the withdrawals are made from the current profit, or in anticipation of the current profit. This is more clearly shown when both the drawings and the profits appear in the same account. *Since the drawings are not expenses, they must not be recorded in the Profit and Loss Summary account.*

Another method often used is that of closing the balance of both the personal account and the Profit and Loss Summary account to the proprietorship account. If this were done, the J. Raynes, Proprietorship account and the J. Raynes, Personal account would appear as follows:

J. Raynes, Proprietorship

1942						*1942*					
Dec.	31			650	00	Jan.	1			3,300	00
						Dec.	31			895	00

J. Raynes, Personal

1942						*1942*					
Feb.	8			125	00	Dec.	31			650	00
June	1			150	00						
Sept.	1			175	00						
Oct.	7			200	00						
				650	00					650	00

The argument advanced for this method is that the proprietorship account contains more information, since it shows both the profit and the drawings for the period.

One cannot logically say that one method is correct and the other incorrect; each has advantages. Expediency and the prejudices of the individual will determine the method used.

A further word of explanation in regard to drawings will probably be helpful. Drawings are amounts taken from the business by the proprietor. *Cash* and *merchandise* are the assets ordinarily withdrawn. Drawings should not be recorded as salaries or shown on the statement of profit and loss as salaries. There is no objection to the deduction of drawings from the profit on the profit and loss statement, but they should be de-

ducted from the net profit and not as salary expense, otherwise the profits would fluctuate with the amounts withdrawn as salaries.

How Profits and Losses Affect the Asset and Liability Accounts. It has been explained that revenue accounts show the amount of the consideration received in exchange for goods or for rendering services, and that the consideration is usually an asset. Expenses are costs of the goods and services expended in obtaining revenue. When expense transactions are recorded, asset accounts are reduced or liability accounts are increased. A profit is the excess of revenues over the deductions from these revenues. Consequently, the effect of a profit is to increase the assets. These additional assets may be permitted to remain in the enterprise or may be used for other purposes, such as the reduction of liabilities. In either case the net result is to increase the proprietorship of the enterprise. A loss has the opposite effect; the assets received in the exchange of goods are less than the assets parted with. Consequently, the proprietorship is reduced.

To illustrate, let us consider the balance sheet of the Nanton Retail Store:

Nanton Retail Store

Balance Sheet
December 31, 1943

Assets		*Liabilities and Proprietorship*	
Cash	$1,500	Accounts Payable	$1,000
Merchandise Inventory	6,000	Nanton Retail Store, Proprietorship	6,500
	$7,500		$7,500

Merchandise costing $4,000 was sold on credit during January 1944, for $4,800. The following expenses were paid: rent $200, salaries $150, sundry expenses $125. (The provision for bad debts is disregarded in this illustration.) The net profit is $4,800 less the $4,475, or $325. After these transactions the balance sheet is:

Nanton Retail Store

Balance Sheet
January 31, 1944

Assets		*Liabilities and Proprietorship*	
Cash	$1,025	Accounts Payable	$1,000
Accounts Receivable	4,800	Nanton Retail Store, Proprietorship	6,825
Merchandise Inventory	2,000		
	$7,825		$7,825

Since the liabilities were unchanged, the assets were increased by the amount of the profit, that is from $7,500 to $7,825. The profit and the

proprietorship would not have been affected by the payment of liabilities. If liabilities of $200 were paid, the cash would be decreased $200 and the liabilities decreased $200 but the proprietorship would not be affected.

The relationship between revenue and expenses and assets may be illustrated as follows:

Revenue	The revenue for a period is the consideration received in exchange for goods sold or services rendered. The consideration received is usually cash or a claim for cash; although sometimes a liability may be reduced. Thus, revenue is ordinarily a measure of the amount of the assets received in exchange transactions.	Increases
		Assets
Expenses	Expenses are the costs of goods and services expended in obtaining revenue.	Decreases

As a result of revenue transactions assets are acquired, but other assets are expended. If the assets received are greater than those expended, a profit is made; if they are less, a loss is incurred.

Profit or Loss from Comparisons of Changes in the Proprietorship Account. Since profits and losses affect the asset and liability accounts and the proprietorship account, the profit or loss for a period might be determined from changes in the balance of the proprietorship account between two different dates. If, during an accounting period, revenue and expense transactions were the only transactions affecting the proprietorship account, the difference between the balances of the proprietorship account on the different dates would be the profit or loss for the period. For example, if the balance of the proprietorship account was $10,000 on December 31, 1943, and $15,000 on December 31, 1944, and if it is known that no other transactions occurred which affected the proprietorship, the net profit for the period must have been $5,000.

When there are other transactions affecting the proprietorship, and these transactions are known, the profit can still be obtained. If the amount of the proprietorship was $12,000 on December 31, 1943, and $20,000 on December 31, 1944, and it is known that the owners of the business withdrew $2,000, the profit could be computed. The balance of the proprietor-

ship account was \$8,000 greater on December 31, 1944, than on December 31, 1943, but the owners withdrew \$2,000. If they had not withdrawn this amount, the difference would have been \$10,000; therefore, the profit for the period was \$10,000.

If there was an increase of \$6,000 in the balances of the proprietorship account between two different dates, and if it is known that an additional investment of \$1,000 was made during the period, the profit for the period would be \$6,000 minus \$1,000, or \$5,000.

Other Changes in the Proprietorship. We have already seen how revenue and expense transactions, and their difference, the profit or loss, affect the proprietorship account, and the effect of the withdrawal and investment of funds has been discussed.

There are still other transactions that affect the proprietorship account. Profits may be made or losses incurred on the sale of investments, or on the sale of buildings and equipment. A factory might sell a machine that it owned for more than its cost, and the difference would be a profit. For example, if a machine with a book value of \$1,500 were sold for \$2,000, a profit of \$500 would be made. This profit has no relationship whatever to the operating revenue of the period, but it may be added to the operating profit to obtain the net profit from all sources.

Another type of transaction that sometimes occurs is the liquidation of a liability at a discount. A mortgage payable of \$10,000 might be retired, before its maturity, for \$9,500. This transaction results in a reduction of \$9,500 in the assets and a reduction of \$10,000 in the liabilities. Hence, the proprietorship account, which is the difference between the assets and the liabilities, is increased \$500. Again, this transaction has no connection with the operating revenue for the period, but the amount may be added to the operating profit to obtain the final net profit.

This last transaction can be analyzed if the student keeps the balance sheet equation in mind. By using this equation, $A = L + P$, or $A - L = P$, he can analyze many transactions that might otherwise cause him difficulty. This is especially true of certain transactions that occur in corporation accounting, which will be discussed later in this volume.

A Loss. The reader is already familiar with the concept of an operating loss—the excess of expenses over revenue; some costs were incurred which produced no revenue.

This same idea may be applied to more specific transactions. When goods or services are consumed without making any contribution to revenue, a loss is said to occur. An example of this is a loss resulting from a fire. Losses may be sustained on assets of the first type, *i.e.*, cash, investments, etc. For example, cash may be embezzled, or securities may be sold below their cost.

Losses are fundamentally different from expenses in that expenses are definitely connected with revenue. An expense was defined as a cost of the revenue of an accounting period. *A loss has no direct connection with revenue.*

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain the relationship between revenue accounts and assets.

2. Explain the relationship between expenses and assets.

3. What is meant by the term *closing the accounts*, or *closing the books?*

4. Explain how the following accounts would be closed: Sales, $10,000; Rent Expense, $4,200; Supplies Used, $1,800; Salaries, $2,400; Sundry Expenses, $500.

5. Are asset and liability accounts closed when the books are closed?

6. Are reserve accounts closed when the books are closed?

7. Are prepaid expense accounts closed when the books are closed?

8. A Sales account contains a debit of $10,000 and a credit of $10,000. How would you rule this account? Why would a debit of $10,000 be entered in the Sales account?

9. A Sales Salaries account has the following entries: debits, $400, $350, $350, $400; credits, $1,500. Make up an account form, enter these debits and the credit, then rule the account.

10. Might debits ever be made in revenue accounts except to close them?

11. Might a credit ever be made in an expense account except in closing it?

12. What entries are made in a proprietor's personal account?

13. Must a personal account always be used?

14. Should the balance of the personal account be closed to the Profit and Loss Summary account?

15. Should the balance of the Profit and Loss Summary account be closed to the personal account?

16. Determine the profit for 1944 if the balance of the proprietorship account was $10,000 on December 31, 1943, and $15,000 on December 31, 1944, and $2,000 was withdrawn by the owner during 1944.

17. The balance of the proprietorship account was $12,000 on December 31, 1943, and $16,000 on December 31, 1944. Determine the profit or loss for 1944 under the following circumstances:

(a) The owner withdrew $200 a month during 1944.

(b) The owner invested $2,000 during 1944 and made no withdrawals.

18. The balance of the proprietorship account was $18,000 on December 31, 1940, and $12,000 on December 31, 1941. Determine the profit or loss if:

(a) $2,000 was withdrawn during 1941.

(b) $3,000 was invested during 1941 and there were no withdrawals.

19. A building which cost $25,000 and an account Reserve for Depreciation of Building, $15,000, were recorded on the books on December 31, 1941. On January 1, 1942, the building was destroyed by an earthquake. No earthquake insurance was carried. Would you consider the $10,000 an expense of January 1942?

20. Distinguish between an expense and a loss.

LABORATORY PROBLEMS

1. The balances of some of the ledger accounts are given below. On one sheet of paper open T accounts and place these balances in these accounts:

Sales, $153,245.
A. B. Clower, $1,350 [an account payable].
Cost of Goods Sold, $141,965.
Advertising Expenses, $545.
Insurance Expense, $130.
Office Salaries, $1,850.
Sales Salaries, $2,650.
Sundry Selling Expenses, $355.
Notes Payable, $1,200.
Interest Revenue, $120.
Telephone and Telegraph Expense, $27.
Cash, $2,850.
Light and Heat, $320.
Sundry Office Expenses, $175.
J. J. Jackson, Proprietorship, $20,000.

Close the revenue and expense accounts to the Profit and Loss Summary account and close this account.

2. On one sheet of ledger paper open T accounts with the following balances:

Cost of Goods Sold, $35,200.
Selling Expenses, $5,200.
Depreciation of Sales Equipment, $235.
Freight Out, $495.
Sales, $56,500.
Office Expenses, $3,600.
Delivery Expenses, $1,150.
Sales Equipment, $5,500.
Wilson and White, $2,700 [an account payable].
Prepaid Insurance, $720.
Insurance Expense, $95.
A. B. Janes, Proprietorship, $12,000.

These accounts include all the revenue and expense accounts. Make the closing entries. Use any additional accounts you may need.

3. The following were the balance sheet accounts of the Reo Roller Skating Rink on October 1, 1944: Cash $,1200; Buildings $15,000; Reserve for Depreciation of Buildings $5,000; Reo Roller Rink, Proprietorship, $11,200. You are to open the following accounts, allowing the number of lines indicated in parentheses for each account: Cash (18), Prepaid Insurance (6), Buildings (7), Reserve for Depreciation of Buildings (7), Reo Roller Rink, Proprietorship (6), Supplies (6), Skating and Instruction Revenue (14), Rent Expense (4), Sundry Salaries (7), Sundry Expenses (8), Instructors' Salaries (8), Light and Heat (5), Depreciation of Buildings (5), Profit and Loss Summary (12). The transactions for October were:

Oct. 1 Paid rent for October, $200. Purchased insurance for one year for $72 cash. Paid $900 for an air conditioning system that was installed.
2 Collected from admissions and instruction fees, $75. Purchased supplies for $25 cash.
5 Collected from admissions and instruction, $83.
7 Collected from admissions and instruction, $68.
9 Paid instructors $30. Collected from admissions and instruction, $50.

13 Paid monthly license fee of $25 for October. Collections since October 9, $230.
16 Paid ticket seller $35 salary, ticket taker $30, and instructors $30. Collections, $185.
19 Paid attorney's fees of $50. Collections, $310.
23 Paid instructors $30. Collections, $315.
29 Collections, $540. A cloak room constructed at a cost of $150 was paid for.
30 Paid the janitor $100, salary for month. Paid instructors $30, ticket seller $35, ticket taker $30. Paid October light bill, $95. Paid telephone bill for October, $12. Collections, $60.

On October 31, the supplies on hand amounted to $15.
Insurance for one month had expired.
Record depreciation of 1 per cent of the balance of the Buildings account on October 30.

You are required to open the books, make the entries for the foregoing transactions, make the adjusting entries, and finally make the closing entries.

4. The following were the balance sheet accounts of the Ever Ready Messenger Service as of January 1, 1944: Cash, $800; Equipment, $900; Newman Bookers, $65.20; Ever Ready Messenger Service, Proprietorship, $1,765.20. On standard form ledger paper open the following accounts, allowing the number of lines indicated in parentheses for each account: Cash (22), Newman Bookers (4), Prepaid Insurance (4), Prepaid Taxes (6), Office Supplies (7), Equipment (7), Reserve for Depreciation of Equipment (4), Accrued Salaries Payable (4), Lyman Co. (4), Royal Supply Co. (4), *Daily News* (4), Ever Ready Messenger Service Proprietorship (7), Messenger Revenues (8), Gasoline and Oil Used (8), Sundry Expenses (8), Rent Expense (4), Advertising Expenses (4), Salary Expense (7), Telephone and Telegraph Expenses (4), Profit and Loss Summary (12).

Jan. 1 Paid rent for January, $75.
5 Paid motorcycle licenses for the year 1944, $45. [Consider this expenditure an expense.]
7 Paid taxes assessed for the year 1944, $96. Deposited collections for the week, $375.40. Paid messengers, $150. Paid for gasoline and oil used, $25.50.
10 Purchased a motorcycle for $186.50 cash.
12 Purchased advertising for $23.10 to be run in the *Daily News* during January (not paid).
14 Collections for the second week deposited, $412.20. Paid for gasoline and oil, $33.20 Paid messengers, $165.
17 Purchased office stationery for $25.40 from Lyman Company on credit.
18 Collected Newman Bookers balance, $65.20.
21 Collections, $298.50. Paid messengers, $120. Paid for gasoline and oil used, $22.20.
24 Purchased office supplies on credit from Royal Supply Co., $25.
28 Collected $314.80. Paid messengers $125. Paid Royal Supply $25. Paid for gasoline and oil used, $26.40.
31 Paid telephone bill, $64.40. Paid light bill, $25.60. Paid $60 for insurance for the year beginning February 1, 1944, to January 31, 1945.

(a) Open the books of the Ever Ready Messenger Service as of January 1. Make entries for the above transactions. Make the adjusting entries and closing entries. The depreciation of the equipment including the motorcycle was estimated to amount to $60; office stationery on hand, $17; unpaid salaries to messengers, $55; taxes expired for one month.

(b) Determine the profit or loss for the period.

(c) Determine the net change in the assets and liabilities on January 31 as compared with January 1.

5. You are required to close the revenue and expense accounts of the Wiley Corporation. The revenue and expense accounts are included among the following accounts: Sales, $25,600; Cost of Goods Sold, $18,500; Sales Salary Expense, $3,100; Office Expense, $2,400; Sundry Expenses, $1,200; Capital Stock, $10,000; Surplus, $12,500. Open T accounts and close the revenue and expense accounts to the Profit and Loss Summary account, and close this latter account.

6. The following is a trial balance taken from the books of B. B. Stiles after the adjusting entries were made on December 31, 1942:

Cash	$ 3,510.25	
Accounts Receivable	5,342.20	
Reserve for Doubtful Accounts		$ 455.80
Notes Receivable	1,200.00	
Inventory, Dec. 31, 1942	8,316.80	
Prepaid Insurance	110.60	
Office Supplies	98.45	
Sales Supplies	215.60	
Buildings and Equipment	10,563.80	
Reserve for Depreciation of Buildings and Equipment		4,215.60
Land	2,000 00	
Sales Department Equipment	3,214 50	
Reserve for Depreciation of Sales Department Equipment		1,414.65
Notes Payable		1,800.00
Accrued Interest Payable		150.00
Accounts Payable		2,395.25
Mortgage Payable		5,000.00
B. B. Stiles, Proprietorship		27,326.70
B. B. Stiles, Personal	3,600.00	
Sales		110,343.85
Sales Returns and Allowances	1,984 55	
Cost of Goods Sold	82,433.20	
Sales Salaries	7,576.45	
Depreciation of Sales D partment Equipment	285.10	
Sales Supplies Used	2,378.95	
Advertising	4,365.85	
Sundry Selling Expenses	2,675.35	
Delivery Expenses	3,876.55	
Office Salaries	4,156.85	
Depreciation of Buildings and Equipment	397.20	
Office Supplies Used	1,463.25	
Property Taxes	347.75	
Sundry Office Expenses	1,452.85	
Interest Expense	300.00	
Bad Debts	1,235.75	
	$153,101.85	$153,101.85

Open small T accounts for all revenue, expense, and proprietorship accounts and make all the entries to close the accounts, closing the balance of the Profit and Loss account to B. B. Stiles, Personal account.

7. The balance sheet of the Terwilinger Garage as of December 31, 1943, is given below. This business is owned by W. E. Terwilinger. All the work is done for cash except that done for the Merton Transport Co. which is done on credit.

The Terwilinger Garage

Balance Sheet
December 31, 1943

Assets		*Liabilities and Proprietorship*	
Cash	$ 892.70	Colman Auto Parts	$ 135.80
Merton Transport Co.	383.40	W. E. Terwilinger, Proprietorship	2,675.60
Notes Receivable	50.45		
Parts on Hand	213.45		
Prepaid Insurance	55.60		
Machinery and Equipment	1,215.80		
	$2,811.40		$2,811.40

Open the following accounts, allowing the number of lines shown for each account:

Cash	15 lines	Repair Revenue	8 lines
Merton Transport Co.	5 "	Shop Salaries	6 "
Notes Receivable	5 "	Rent Expense	4 "
Parts on Hand	5 "	Heat and Light	4 "
Prepaid Insurance	5 "	Depreciation of Machinery and Equipment	4 "
Machinery and Equipment	5 "	Parts Used	6 "
Reserve for Depreciation of Machinery and Equipment	5 "	Office Salaries	5 "
Accrued Shop Salaries	5 "	Sundry Expenses	4 "
Colman Auto Parts	5 "	Profit and Loss	10 "
W. E. Terwilinger, Proprietorship	5 "		
W. E. Terwilinger, Personal	5 "		

(a) Open the books as of January 1, 1944, and enter the following transactions for January, 1944:

Jan. 2 Paid Colman Auto Parts, $135.80.
6 Paid rent for January, $125.
7 Collected for repairs made during the first week of January, $115.10.
8 Purchased auto parts on credit, from Colman Auto Parts, $76.85. Paid A E. Giles, a mechanic, his salary of $40 for first week.
12 Collected for repairs, $125.60.
13 Received check from Merton Transport Co., $383.40.
14 Collected for repairs, $98.70. Debited Merton Transport Co., $215.80 for repairs made in the first half of January.
16 Paid B. E. Milner, an office employee, $75, his salary for one-half month. Paid A. E. Giles salary of $40. W. E. Terwilinger withdrew $125 cash.
19 Collected for repairs, $142.80.
20 Purchased auto parts on credit from Colman Auto Parts, $93.90.
21 Paid A. E. Giles salary, $40. Received $50.45 cash from A. E. Jenks, who paid his note.
24 Collected for repairs, $133.10.
27 W. E. Terwilinger withdrew $125 cash.
29 Paid A. E. Giles salary, $40.
31 Paid B. E. Milner $75, the balance of his salary for the month. Collected for repairs, $114.80. Debited Merton Transport Co., $186.40 for repairs. Paid power and light, $38.40. Paid telephone bill of $14.90.

Adjustments are to be made for the following: Parts on hand, $153.20; prepaid insurance, $52.10; depreciation, $12.15; Giles salary for 2 days. Make the closing entries, closing the balance of the Profit and Loss Summary account to the W. E. Terwilinger, Personal account.

(b) Make up a statement of profit and loss for the month of January.

8. On January 1, 1944, the business of E. T. Brix had assets of $26,000 and liabilities of $8,000. During 1944, Mr. Brix purchased an automobile for the personal use of Mrs. Brix for which he wrote a check on the bank account of the enterprise for $1,100. Mr. Brix withdrew for his personal use $4,800 during 1944 and made no additional investment. On December 31, 1944, the following were the assets and liabilities of the enterprise:

Assets		*Liabilities*	
Cash	$ 3,300	Accounts Payable	$2,400
Inventory	4,500	Mortgage Payable	8,000
U. S. Government Bonds	6,000	Accrued Interest Payable	180
Building and Equipment	18,000	Accrued Taxes Payable	116
Supplies	115		
Prepaid Insurance	800		

Determine the profit or loss for the year 1944.

9. Ely Fogg, who owned a small grocery store, did not keep a complete set of records. You are required to determine the profit or loss for the year 1944 from the following data:

Assets	*Jan. 1, 1944*	*Dec. 31, 1944*
Cash	$ 750	$ 960
Accounts Receivable (Net)	1,200	1,650
Inventory	1,800	2,100
Prepaid Insurance	40	50
Supplies on Hand	30	45
Furniture and Fixtures (Net)	350	300
	$4,170	$5,105
Liabilities		
Accounts Payable	$1,200	$1,700
Accrued Taxes	50	65
	$1,250	$1,765

During the year 1944 Mr. Fogg withdrew $2,700 and made no additional investment.

CHAPTER VIII. MERCHANDISE TRANSACTIONS

Expenditures for Merchandise. The accountant must divide the costs of merchandise between the inventory and the cost of goods sold in order to match properly these costs with sales. The chief cost of merchandise is ordinarily its purchase price. But the acquisition of merchandise also necessitates other costs, which may include those for:

Transportation to the purchaser's place of business
Storage
Grading and sorting
Insurance on merchandise in transit to the purchaser's place of business.

The price for which the merchandise is purchased is called the purchase price or the invoice price of the merchandise. The purchase price of the merchandise sold during an accounting period should, of course, be considered to be an expense of that period.

The costs incurred in transporting the merchandise to the enterpriser's place of business would ordinarily be those for freight and cartage. In a small enterprise such costs may be grouped in one account called Transportation In, or Freight and Cartage In. Part of these costs are costs of the goods sold during the period, and part costs of the goods still on hand at the end of the period. Periodically, and no later than the end of the accounting period, the allocation of these costs to the current sales and to future accounting periods may be accomplished by making debits to an expense account, Cost of Goods Sold, and credits to the Purchases and Transportation In accounts.

To illustrate, let us consider the transactions of the business of Mr. T. W. Neil, a salmon dealer, for the month of May. During this month, Mr. Neil purchased 500 cases of salmon for $5,000 cash, this salmon being all of one kind. He paid transportation charges of $400 and a charge of $100 for storage. During May he sold 300 cases or three-fifths of the merchandise.

When the salmon was purchased and stored, the following entries would be made in the ledger accounts:

Purchases		Transportation In	
5,000		400	

Storage		Cash	
100			5,000
			400
			100

The purchase of the salmon for $5,000 is recorded by a debit of $5,000 to Purchases and a credit of $5,000 to Cash.

The cost of transportation is recorded by a debit of $400 to an account Transportation In and a credit of $400 to Cash.

The cost of $100 for storage is recorded by a debit of $100 to an account called Storage and a credit of $100 to Cash.

When three-fifths of the goods was sold, the costs should be divided as shown in the following tabulation:

	Total Cost	*Expense*	*Asset*
Purchases	$5,000	$3,000	$2,000
Transportation In	400	240	160
Storage	100	60	40
	$5,500	$3,300	$2,200

Of the total cost of $5,500, three-fifths or $3,300 is considered to be an expense of the current period. The remaining two-fifths of $5,500, or $2,200, is the cost of the inventory and would be recorded in an Inventory account. This amount will be deducted from the sales of future accounting periods. When the entries are made to record as an expense the cost of the merchandise sold, the accounts would appear as follows:

Purchases			Transportation In		
5,000	(1)	3,000	400	(2)	240

Storage			Cost of Goods Sold		
100	(3)	60	(1)	3,000	
			(2)	240	
			(3)	60	

Entry 1 is made to debit the Cost of Goods Sold account with the invoice cost of the merchandise sold. The credit is made to the Purchases account.

Entry 2 is made to debit the Cost of Goods Sold account with the transportation cost of the goods sold during the period. The credit is made to the Transportation In account to reduce the balance of this account to the cost that applies to the goods still on hand.

Entry 3 is made to debit the Cost of Goods Sold account with the storage cost of the goods sold. The credit is made to the Storage account.

The balances of these accounts now are:

Purchases	$2,000
Transporation In	160
Storage	40
	$2,200

The total of the balances of the Purchases, Transportation In, and Storage accounts represents the total cost of the goods still on hand. This amount is closed to the account Merchandise Inventory, or Inventory, and the amount of the inventory is shown on the balance sheet as an asset. It is a cost to be deducted from the sales of future accounting periods.

Entry 4 below is made to debit the Inventory account and credit the Purchases, Transportation In, and Storage accounts:

Purchases

	5,000	(1)	3,000
		(4)	2,000

Transportation In

	400	(2)	240
		(4)	160

Storage

	100	(3)	60
		(4)	40

Cost of Goods Sold

(1)	3,000		
(2)	240		
(3)	60		

Inventory

(4)	2,200		

The balance of the Cost of Goods Sold account is closed to the Profit and Loss Summary account as illustrated by entry 5:

Profit and Loss Summary

(5)	3,300		

Cost of Goods Sold

(1)	3,000	(5)	3,300
(2)	240		
(3)	60		

If costs were incurred for grading and sorting before the goods were delivered to the sales department, part of such costs would ordinarily be for the goods sold and part for the goods on hand. Consequently the costs would be apportioned like those above.

Merchandise may be insured while it is in transit. This is done when carloads of a valuable product such as silk or metals are purchased. The railroad is responsible for all ordinary risks, but is not responsible for "Acts of God"—landslides, floods, tornadoes, etc.—and to avoid such

losses the purchaser may take out insurance to cover these risks. Such costs should also be apportioned to the goods sold during the period and to the goods on hand at the end of the period.

This method of recording the cost of goods sold is called the *perpetual inventory* method as distinguished from the inventory method which will be described in the next section.

The reader may wonder why the costs recorded in such accounts as Sales Salary Expense, Sundry Selling Expenses, Office Salaries, and Sundry Office Expenses are not allocated to the current sales and to future accounting periods. This should be done if substantial portions of these costs are costs of the merchandise still on hand at the end of the current accounting period. Usually, however, costs of this type are almost entirely costs of the sales of the current accounting period. If not, the portions that are costs of the sales of future accounting periods are usually so small, and so difficult to determine, that they are disregarded.[1] *It is the general practice in accounting to record as expenses costs incurred for sales salaries, office salaries, and various other selling, office, and administrative purposes.* Most business enterprises do not find it necessary to record any portion of these costs as assets to be deducted from the sales of future accounting periods.

Inventory Method. Under the inventory method the costs of merchandise are apportioned between the current and future accounting periods by determining the costs of the merchandise on hand at the end of the accounting period. We do this by first taking an inventory of the goods on hand at the end of the accounting period, and then determining the costs of this inventory. The total of these costs is deducted from the total cost of the merchandise that was available for sale during the period, and the balance is the cost of goods sold.

Usually the amount of the merchandise purchased during the period is segregated from the inventory on hand at the beginning of the period in order that the amount of the purchases may be more easily obtained. An account is usually opened for Inventory and another for Purchases. If the inventory on hand at the beginning of the period, January 1, is $2,000, the Inventory account would appear as follows:

Inventory

Jan. 1	2,000	

The costs incurred during the period for merchandise purchased and freight on same would be recorded by crediting Cash (or an account payable) and debiting Purchases and Transportation In. If merchandise

[1] This topic is discussed more fully in Chapter XVIII.

were purchased for $6,000 cash on which freight of $500 was paid, the entries would be:

Purchases

Debit		Credit	
Jan. 31	6,000		

Transportation In

Debit		Credit	
Jan. 31	500		

Cash

Debit		Credit	
		Jan. 31	6,000
		31	500

The Inventory, Purchases, and Transportation In accounts would be closed to the Cost of Goods Sold account by entries debiting the Cost of Goods Sold account and crediting Inventory, Purchases, and Transportation In. If the total of the costs of the final inventory was $1,800, a debit is made to the Inventory account and a credit to the Cost of Goods Sold account for this amount. The accounts would now appear as follows:

Purchases

Debit		Credit	
Jan. 31	6,000	Jan. 31	6,000

Transportation In

Debit		Credit	
Jan. 31	500	Jan. 31	500

Inventory

Debit		Credit	
Jan. 1	2,000	Jan. 31	2,000
Feb. 1	1,800		

Cost of Goods Sold

Debit		Credit	
Jan. 1 Inventory	2,000	Jan. 31 Inventory	1,800
31 Purchases	6,000		
31 Transportation In	500		

The following entries were made to record the cost of goods sold:

A debit to the Cost of Goods Sold account and a credit to the Inventory account for the amount of the initial inventory.

A debit to the Cost of Goods Sold account and a credit to Purchases for the amount of the purchases made during the period.

A debit to the Cost of Goods Sold account and a credit to the Transportation In account for the amount of the freight for the period.

A credit to the Cost of Goods Sold account and a debit to the Inventory account for the total of the costs of the final inventory.

The balance of the Cost of Goods Sold account represents the cost of the merchandise that is gone, and the assumption is that this merchandise was sold.

Under this method the costs of the merchandise sold during the period have been determined indirectly by first determining the costs of the merchandise still on hand at the end of the accounting period. This amount is deducted from the total of the costs incurred for the goods available for sale, and the balance is the cost of the goods sold.

In determining the costs of the merchandise still on hand not only the purchase price of the goods but also the portions of such other costs as freight in, storage, and grading and packing should be included.

Illustration of the Inventory Method. The W. B. Wilson Company had cash of $12,300 and an inventory of $2,500 on January 1, 1944. The following were the transactions for January:

Purchases from Zever Supply Company, $1,600 on credit.
Sales to Alton Green, $3,800 on credit.
Freight paid on the purchases, $200.
Merchandise purchased for $500, for which a 90-day noninterest-bearing note payable was issued.
Paid Zever Supply Co., $700 on account.
Collected from Alton Green, $800 on account.
Paid sales salaries, $175.
Paid office salaries, $125.
Purchased a store building for $10,000 cash on January 31.
Purchased a truck for $800 cash on January 31.

Each entry is numbered in the ledger accounts. The closing entries are designated by the letter (c). The final inventory is $2,000.

Cash

(1)	12,300	(4)	200
(7)	800	(8)	175
		(6)	700
		(9)	125
		(10)	10,000
		(11)	800

Inventory

(1)	2,500	(12)	2,500
(15)	2,000		

Alton Green

(3)	3,800	(7)	800

Building

(10)	10,000		

Delivery Equipment

(11)	800		

Zever Supply Company

(6)	700	(2)	1,600

Notes Payable

		(5)	500

W. B. Wilson Company, Proprietorship

		(1)	14,800
		(c5)	700

Sales

(c1)	3,800	(3)	3,800

Purchases

(2)	1,600	(13)	2,100
(5)	500		
	2,100		2,100

Transportation In

(4)	200	(14)	200

Sales Salaries

(8)	175	(c3)	175

Office Salaries

(9)	125	(c4)	125

Cost of Goods Sold

(12)	2,500	(15)	2,000
(13)	2,100	(c2)	2,800
(14)	200		
	4,800		4,800

Profit and Loss Summary

(c2)	2,800	(c1)	3,800
(c3)	175		
(c4)	125		
(c5)	700		
	3,800		3,800

Entries 1 to 11 need no explanation, as similar entries have been explained several times. Entries 12, 13, and 14 are made to close the balances of the Inventory, Purchases, and Transportation In accounts to the Cost of Goods Sold account. Entry 15 is to record the cost of the final inventory by debiting the Inventory account and crediting the Cost of Goods Sold account.

Purchase Returns and Allowances. When goods are returned to the party from whom they were purchased, the logical entry to make is one crediting Purchases and debiting the creditor. But instead of crediting Purchases, we ordinarily credit an account Purchase Returns and Allowances with the amount of the purchase returns and allowances. This is done so that executives can readily see the total of the goods returned and allowances received. If the amounts are increasing in proportion to purchases, the reasons for this trend would be ascertained. The enterprise might be purchasing merchandise of a poorer quality, or there might be some other preventable cause of the returns.

If goods purchased for $100 were returned to Norton Bros., the following entry would be made:

Norton Bros.	
100	

Purchase Returns and Allowances	
	100

When the adjusting entries are made, the Purchase Returns and Allowances account, which is really a reduction of the Purchases account, is closed to the Cost of Goods Sold account.

Sales Returns and Allowances. When merchandise that was sold is returned, the logical entry to make would be a debit to Sales and a credit to Cash or a credit to the customer who returned the merchandise. But in order to make this information more readily available to executives it is desirable to use a Sales Returns and Allowances account. If additional detail is required, two accounts may be opened, one for sales returns and another for sales allowances.

The Sales Returns and Allowances account is shown on the statement of profit and loss as a deduction from sales. This is done so that the amount will be readily seen by executives. If any unusual changes take place in the proportion of the sales returns and allowances to sales, the reason for the increase is ascertained.

If merchandise was sold on account to T. Jenks for $75, the entry to record the sale would be:

T. Jenks	
75	

Sales	
	75

If Mr. Jenks returned merchandise that was sold to him for $25, and is credited with this amount, the proper entry is a debit of $25 to Sales Returns and Allowances and a credit of $25 to the T. Jenks account as follows:

T. Jenks		Sales Returns and Allowances	
75	25	25	

The balance of the Sales Returns and Allowances account is closed to the Profit and Loss Summary account when the books are closed. The entry to close the account is a debit to the Profit and Loss Summary account and a credit to the Sales Returns and Allowances account.

When the perpetual inventory method is used, an additional entry is made. It is necessary to debit the Inventory account and to credit the Cost of Goods Sold account for the cost of the goods returned.

Sales Discounts. Discounts are granted to customers to encourage them to pay promptly in order that the business will have use of the funds, and collection expense may be reduced.

Merchandise is often sold on such terms as 1/10, n/30, which means that 1 per cent may be deducted from the amount of the invoice if payment is made within 10 days, and after 30 days the bill is overdue.

Merchandise sold to T. W. Wilson for $500 on terms of 1/10, n/30, would be recorded as follows:

T. W Wilson		Sales	
500			500

If payment was received within the discount period, T. W. Wilson would pay $500 less $5 or $495. An entry would be made to debit Cash $495, to debit Sales Discounts $5, and to credit the T. W. Wilson account $500.

T. W. Wilson		Sales Discounts		Cash	
500	500	5		495	

In closing the books, the balance of the Sales Discounts account is closed to the Profit and Loss Summary account by a debit to the latter account and a credit to the Sales Discounts account.

Questions will often arise as to whether discounts are granted when notes receivable and partial payments are received. A note received within the discount period, even if an interest-bearing note, is not the equivalent of cash. Money can be borrowed on the note, but only by discounting it,

and if the maker of the note fails to make payment the seller will be required to do so. However, if the seller wishes to grant the discount he may do so.

A partial payment to a creditor does not necessarily entitle the customer to the discount on that partial payment. One of the reasons for granting the discount is to avoid collection expenses, and it may cost just as much to collect part of the bill as the entire bill. On the other hand the purchaser would rarely make a partial payment within the discount period if he did not receive the discount.

The seller determines the conditions under which the discounts are granted. As a rule, sellers are very lenient with their "good" customers, but they may insist that "slow-pay" customers adhere strictly to the discount terms.

Sales discounts are discussed again in Chapter XVIII.

Purchase Discounts. Under one method of recording purchase discounts the purchase is recorded at the gross amount and the discount is recorded when the payment is made. To illustrate, merchandise is purchased from A. E. Giles and Co. for $1,000 on terms of 2/10, n/30. This purchase is recorded by debiting Purchases $1,000 and crediting A. E. Giles and Co. $1,000, as follows:

Purchases		A. E. Giles and Co.	
1,000			1,000

When payment is made within 10 days a payment of $980 is made and an entry would be made to debit A. E. Giles and Co. $1,000, credit Cash $980, and credit Purchase Discounts $20 as below:

A. E. Giles and Co.		Purchase Discounts		Cash	
1,000	1,000		20		980

Under this method the Purchase Discounts account is treated as a revenue account, the revenue being considered to be financial revenue, although it would not be incorrect to consider the account as an account reducing Purchases. Although open to numerous theoretical and practical objections, this method may be satisfactory when the purchase discounts are so few as to be almost negligible. However, it is often unsatisfactory for the following reasons:

The liability is recorded at the gross amount when the liability at the time of the purchase is for only the net amount. The amount of the discount is a contingent liability and becomes an actual liability only if the payment is not made within the discount period.

No record is provided of the purchase discounts lost. All the discounts could be lost and the books would provide no evidence of the fact. The books show only the amount of the discounts taken.

Revenue may be recorded even though goods or services are not exchanged. The payment of $980 for goods purchased for $1,000 less 2 per cent discount would result in revenue of $20 being recorded even if the goods were never sold.

Both sales discounts and purchase discounts will be discussed again in Chapter XVIII.

Illustration of the Recording of Purchase and Sales Returns and Discounts. In order to illustrate the recording of purchase returns, sales returns, purchase discounts, and sales discounts, the following transactions are recorded, the adjusting entries made, and the books closed:

Transactions for July:

July 15	A. B. Close invested cash of $6,000 and turned over to the business an inventory which had cost him $3,500. Insurance for one year was purchased for $48 cash. Merchandise was purchased from National Supply Co. for $2,000 on credit. Paid freight in of $120.
18	Paid rent of $200 for the remainder of July.
20	Merchandise was purchased on credit from American Wholesale Co. for $1,000. Merchandise which cost $200 was returned to National Supply Co.
21	A sale on credit for $500 was made to S. S. Steamship Co.
25	A sale on credit for $1,000 was made to the G & L Logging Co.
26	Paid American Wholesale Co. invoice less 2 per cent.
27	S. S. Steamship Co. returned merchandise for which they were granted $100 credit.
29	Received payment from G & L Logging Co. less 1 per cent.
31	Paid a sales salary of $175 and an office salary of $150.

Adjusting information:

Unpaid sundry expenses, $50	Insurance expired, $2
Bad debts 1 per cent of gross sales	Inventory, $5,600

Cash

July 15	6,000	July 15	48
29	990	15	120
		15	200
		26	980
		31	175
		31	150

Inventory

July 15	3,500	July 31	3,500
Aug. 1	5,600		

American Wholesale Co.

July 26	1,000	July 20	1,000

Purchases

July 15	2,000	July 31	3,000
20	1,000		

National Supply Co.

July 20	200	July 15	2,000

Prepaid Insurance

July 15	48	July 31	2

Purchase Returns and Allowances

July 31	200	July 20	200

Accrued Sundry Expenses Payable

		July 31	50

S. S. Steamship Co.

July 21	500	July 27	100

G. & L. Logging Co.

July 25	1,000	July 29	1,000

Cost of Goods Sold

July 31	3,500	July 31	200
31	3,000	31	5,600
31	120	31	820

A. B. Close, Proprietorship

July 31	2	July 15	9,500

Reserve for Doubtful Accounts

		July 31	15

Freight In

July 15	120	July 31	120

Sales Salaries

July 31	175	July 31	175

Bad Debts

July 31	15	July 31	15

Sales

July 31	1,500	July 21	500
		25	1,000

Office Salaries

July 31	150	July 31	150

Profit and Loss Summary

July 31	820	July 31	20
31	100	31	1,500
31	10	31	2
31	200		
31	175		
31	150		
31	52		
31	15		

Sales Returns and Allowances

July 27	100	July 31	100

Sundry Expenses

July 31	50	July 31	52
31	2		

Sales Discounts

July 29	10	July 31	10

Purchase Discounts

July 31	20	July 26	20

Rent Expense

July 18	200	July 31	200

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. The merchandise on hand on January 1 cost $5,000. Merchandise was purchased during January for $10,000. Freight of $1,000 was paid on the merchandise purchased. If the merchandise was all of the same kind and four-fifths of the merchandise available for sale had been sold during January, determine the costs that should be deducted from January sales.

2. What two different methods might be followed to determine the cost of goods sold? What are the advantages and disadvantages of each?

3. The Meldon Tobacco Company purchased tobacco in the following way. Buyers attended auctions where they purchased tobacco. The tobacco was stored in warehouses for from 1 to 2 years to age and dry. During this time the tobacco was stemmed. Finally the tobacco was turned over to the manufacturing department,

where further costs were incurred in producing cigarettes. What costs would enter into the cost of goods sold?

4. Is insurance ever considered a cost that enters into the cost of goods sold?

5. Determine the cost of goods sold from the following information: Merchandise on hand January 1, 1942, $2,500; merchandise purchased during January, $16,500; freight in paid, $900; merchandise on hand January 31, 1942, $3,500.

6. How would you determine the amount of the "goods available for sale"?

7. How would you record the return for credit of merchandise which you bought from the Wholesale Supply Company at a cost of $100?

8. From the following balances of accounts, determine the cost of goods sold. Inventory, January 1, 1942, $5,400; Purchases, $28,200; Transportation In, $1,500; Purchase Returns, $600; Inventory, December 31, 1942, $6,200.

9. Set up accounts with balances as follows: Inventory, $3,000; Purchases, $18,400; Transportation In, $500; Purchase Returns and Allowances, $400. Open a Cost of Goods Sold account and make entries to determine the cost of goods sold when the final inventory is $1,800.

10. William White returned for credit merchandise purchased from you for $15. What entry would you make to record the transaction if the cost of goods sold was determined by the inventory method?

11. Explain clearly why no debit was made to the Inventory account in the preceding problem to record the receipt of the merchandise.

12. If you were the manager of a business, why might you grant discounts to your customers for payment within a certain time?

13. If a customer made a partial payment within the discount period, would you grant the discount?

14. If the customer gave you a noninterest-bearing note, would you allow him the discount? An interest-bearing note?

15. Approximately what annual rate of interest would money cost you if you failed to take a discount of 3/10, n/30?

16. If merchandise purchased for $100 on terms of 2/10, n/30 were recorded by a debit of $100 to Purchases and a credit of $100 to an account payable, how would you record the entry made for payment within 10 days?

LABORATORY PROBLEMS

1. Open the following T accounts: Cash (space for 8 entries), R. L. Green, Merchandise, Wilson Bros., Notes Payable, C. B. Dean Proprietorship, Sales, Cost of Goods Sold, Rent Expense, and Sales Salaries. Make entries for the following transactions:

April 6 C. B. Dean invested $10,000 cash in the business.
8 Merchandise was purchased on credit from Wilson Bros., $2,200.
9 Merchandise was purchased for cash, $500.
11 Sales were made for cash, $75; the merchandise cost $50.
12 A sale was made on credit to R. L. Green, $250; the merchandise cost $175.
15 Merchandise was purchased for $1,000 for which a note payable was issued.
16 A payment of $800 was made on account to Wilson Bros.
17 Received from R. L. Green on account, $75.
19 A sale was made on credit to R. L. Green, $750; the merchandise cost $500.
20 A payment of $200 was made on account to Wilson Bros.
22 A note for $500 was issued to Wilson Bros. to apply on account.

23 Received from R. L. Green on account, $50.
24 Merchandise was purchased for cash, $300.
26 Rent for April was paid, $125.
27 Sales salaries for April were paid, $375.
28 Sales were made for cash, $75; the merchandise cost $40.
29 The note payable of $500 to Wilson Bros. was paid.
30 C. B. Dean withdrew cash of $250.

2. (a) Determine the cost of goods sold from the following data: sales, $15,625.30; purchases, $9,459.45; selling expenses, $1,515.50; sales discounts, $342.55; freight in, $826.50; purchase returns, $385.45; sales returns, $892.70; freight out, $542.60. The cost of the beginning inventory was $10,644.25, and the total cost of the final inventory was $9,835.75.

(b) From the following data determine the cost of goods sold:

Selling expenses, $845.75
Inventory, January 1, 1944, $5,125.45
Inventory, December 31, 1944, $5,455.50 (at invoice prices)
Purchases for the year, $47,845.50
Freight in, $254.50
Cartage in, $694.25
Purchase returns, $684.75
Interest revenue, $22.50
Sales, $50,425.10
Sales returns, $600.50

The freight and cartage in should be evenly distributed over all purchases. All the goods in the original inventory were sold.

3. (a) Mr. B. Cain started business July 1, 1944, with cash of $9,200. Make entries to open books and for the July transactions which follow. Enter the transactions as of July 31.

Merchandise was purchased for $5,950, which was paid.
Cash sales were $4,150
The expenses, amounting to $315, were paid.

Use the following accounts: Cash; B. Cain, Proprietorship; Inventory; Purchases; Sales; Cost of Goods Sold; Expenses. The inventory on July 31 was $3,750. Make the entries for the cost of goods sold; make the closing entries.

(b) Mr. J. Ryan started business on June 8 with cash of $6,250 and an inventory valued at $3,450 taken over from a previously owned business. During June the following transactions occurred, which you are to enter on consecutive dates starting with June 9. He purchased merchandise for $4,700 cash; paid the freight and cartage in of $235; returned merchandise which cost $225, for which he received cash; made sales of $6,250 for cash; paid the expenses for the period, which amounted to $595, all of which were debited to the account Expenses.

Use accounts for Cash; Inventory; Purchases; Freight In; Purchase Returns and Allowances; J. Ryan, Proprietorship; Sales; Cost of Goods Sold; Expenses; and Profit and Loss Summary. The total cost of the final inventory was $3,245. Make the entries for the cost of goods sold, and the closing entries.

4. Open the following accounts for Wm. Fern, a jobber of canned salmon:

Account	*Lines*
Cash	15
Notes Receivable	6
Seattle Wholesale	3
Reserve for Doubtful Accounts	3
Merchandise Inventory	4
Prepaid Insurance	3
Delivery Equipment	3
Reserve for Depreciation of Delivery Equipment	3
Notes Payable	7
Pacific Fisheries	5
Wm. Fern, Proprietorship	5
Sales	8
Purchases	10
Cost of Goods Sold	5
Bad Debts	3
Insurance Expense	3
Salary Expense	3
Depreciation of Delivery Equipment	3
Rent Expense	3
Profit and Loss Summary	6

The balances of the accounts on the books on January 1 were: Cash, $2,500; Inventory, $2,000; Wm. Fern, Proprietorship, $4,500.

(a) You are to open the books and enter the following transactions for the month of January:

Jan. 1 Purchased merchandise for $1,200 cash. Purchased a truck for $900 cash. Purchased insurance for one year, $90 cash.
3 Paid January rent, $75.
4 Purchased merchandise for $800, giving $300 cash and a note for $500.
5 Purchased merchandise for $200 on credit from Pacific Fisheries.
6 Sold Salmon for $900 cash. Sold Salmon for $650, taking a 60-day noninterest-bearing note receivable in payment.
7 Paid a salary of $25.
8 Paid $500 note payable of January 4. Purchased merchandise from Pacific Fisheries for $400 on credit.
11 Sold merchandise for $700, taking a 30-day noninterest-bearing $700 note receivable in payment.
12 Collected $650 in payment of note receivable of January 6. Paid Pacific Fisheries $200 on account.
15 Purchased merchandise for $900 on credit from Pacific Fisheries. Paid a salary of $25.
16 Purchased merchandise for $300 giving a 90-day noninterest-bearing note payable.
18 Wm. Fern withdrew $75 cash.
19 Sold merchandise to Seattle Wholesale for $475 on credit.
21 Paid Pacific Fisheries $400.
23 Purchased merchandise for $400, giving a 60-day noninterest-bearing note payable.
24 Purchased merchandise for $200 cash.
26 Collected $200 from Seattle Wholesale.
31 Sold merchandise to Seattle Wholesale for $700, receiving in return $200 cash, a 60-day 4 per cent note for $300, the balance to be on credit. Paid a salary of $50.

(b) Make up a trial balance.

(c) The cost of the final inventory was $4,000. The depreciation on the truck was estimated to be $25. The bad debts were estimated to be 1 per cent of total sales.

Make the adjusting entries for cost of goods sold, depreciation, insurance, and bad debts.

(d) Make the closing entries.

(e) What was the profit for the period?

(f) Make up a balance sheet.

5. (a) Mr. Wm. Bent started business June 1 as a dealer in secondhand machinery by investing $3,700 cash and transferring to the business an inventory valued at $6,600. You are to open the accounts given below and enter the following transactions for the month of June:

June 1 He leased a building for one year at $1,500 for the year, paying the rent for the month of June.
5 Purchased secondhand machinery for $850 cash.
7 Purchased a delivery truck for $675 cash.
11 Paid $45 for stationery and office supplies.
12 Paid $35 for June advertising in daily paper.
13 Sold W. Ames secondhand machinery for $2,200; received $800 cash, noninterest-bearing note for the balance.
20 Purchased secondhand machinery for $615 cash.
27 Cash sales, $650.
30 Paid gasoline bill, $52; paid office clerk salary of $85 for June.

The following are the accounts you will need and the number of lines for each account: Cash (11), Notes Receivable (2), Inventory (2), Stationery and Supplies (2), Delivery Equipment (3), Reserve for Depreciation of Delivery Equipment (2), Sales (3), W. Bent, Proprietorship (2), Accrued Expenses Payable (2), Cost of Goods Sold (3), Purchases (4), Rent Expense (2), Delivery Expense (3), Depreciation on Delivery Equipment (2), Salaries (2), Supplies Used (2), Advertising Expense (2), Profit and Loss (8).

(b) Take a trial balance.

(c) Make adjusting and closing entries. Adjusting information: inventory, $6,100; unpaid delivery expenses, $28; stationery and supplies on hand, $32.50; depreciation of truck, $20.

(d) Take a trial balance after the books were closed.

6. (a) Mr. C. Hill started business on May 1 with the following assets and liabilities: Cash, $9,850; Inventory of Flooring, $3,500; Notes Receivable, $950; and Notes Payable, $980. The books are to be opened on May 1 and the following transactions for May entered in the ledger accounts given after the following transactions for May:

May 1 Purchased land $5,500, buildings $12,000, a total of $17,500, for which $5,000 cash was paid, and a mortgage bearing 6 per cent interest was given for the balance.
7 Purchases from Bruce and Co. on credit, $1,300. Purchased for cash insurance on building and on stock for one year, $108. Paid freight in, $225.
8 Sales $960 to White Bros., receiving $350 cash, the balance to be paid within 30 days.
12 Purchased a filing cabinet, desk, chairs, and typewriter for $300 cash.
14 Purchased stationery and other office supplies for $38 cash, and a truck for $900 cash.
17 Paid Bruce and Company $800 less 2 per cent discount.
20 Sales to J. R. Olson, $500, receiving $200 cash, the balance to be paid in 30 days.
25 Olson returned $60 of flooring for which he was given credit. Made a cash sale, $650, the goods to be shipped to Longview; Mr. Hill agreed to pay for the delivery of the goods to Longview.
27 Wrote Bruce and Co that they were being debited $15 for defective flooring returned

by Olson which would have to be sold at discount. Repairs to delivery truck of $35 were paid. Paid freight on cash sale to Longview $19.

30 Mr. Hill took from stock flooring costing $40 for his home; the sales price was $70.

31 Paid the following salaries: truck driver, $110; office clerk, $85. C. Hill withdrew $140 cash. Paid invoice for the gasoline and oil for truck, $60. Sale to White Bros., $550, received $250 in cash and a 60-day 6 per cent note for the balance.

Use the following accounts, in which entries will be made on one line only except in the few instances where the number of lines is given in parentheses after the account. Cash (15), White Bros. (3), J. R. Olson, Notes Receivable, Reserve for Doubtful Accounts, Inventory, Prepaid Insurance, Stationery and Office Supplies, Land, Buildings, Reserve for Depreciation of Buildings, Delivery Equipment, Reserve for Depreciation of Delivery Equipment, Office Equipment, Reserve for Depreciation of Office Equipment, Notes Payable, Bruce and Co. (3), Accrued Interest Payable (3), Mortgage Payable, C. Hill Proprietorship, C. Hill Personal, Sales (5), Sales Returns and Allowances, Cost of Goods Sold (4), Purchases, Purchases Returns and Allowances, Freight In, Delivery Expenses (5), Freight Out, Depreciation of Delivery Equipment, Depreciation of Buildings, Insurance Expense, Office Salaries, Sundry Office Expense, Bad Debts, Interest Expense, Purchase Discounts, Profit and Loss (14).

(b) Take a trial balance after you have entered these transactions.

(c) Make the adjusting entries from the following information:

Inventory, $3,700.
Bad debts, estimate 1 per cent of sales.
Depreciation on building, 0.5 per cent of cost.
Depreciation on truck, $32.
Depreciation on office equipment, $7.50.
Insurance (one month expired)
Stationery and office supplies on hand, $25.
Mortgage interest (for one month).

(d) Make the closing entries.

(e) Take a trial balance after the books are closed.

7.

Cash	$ 6,000	Accounts Payable	$ 4,000
Accounts Receivable (net)	7,000	Proprietorship	14,000
Inventory	5,000		
	$18,000		$18,000

(a) Explain how the following revenue and expense transactions affect this balance sheet:

Merchandise which cost $4,000 was sold for $7,000 cash. Expenses of $1,500 were paid. There were no other transactions.

(b) The revenue and expense transactions were the same as in part (a) and in addition collections of $3,000 were made on the accounts receivable and $2,000 was paid on the accounts payable. What effect did these transactions have on the balance sheet accounts?

8. (a)

Cash	$ 8,000	Accounts Payable	$ 7,000
Accounts Receivable (net)	12,000	Proprietorship	22,000
Inventory	9,000		
	$29,000		$29,000

Merchandise which cost $7,000 was sold on credit for $11,000. Other expenses of $2,200 were paid; the bad debts were estimated to be $100.

Explain how these revenue and expense transactions would affect the above balance sheet accounts.

(b) Merchandise was purchased on January 1, 1943, for $11,500. Purchases during 1943 amounted to $35,000. The merchandise inventory on December 31, 1943, was entered on the books at $18,000. During 1944 it was discovered that the inventory on December 31, 1943, should have been recorded at $13,000. What effect did this error have on the profit shown for 1943?

What effect would it have had, if not discovered, on the profit for 1944?

9. (a) Howard Trent began business on June 1 with cash of $9,500, merchandise of $7,600, and sales fixtures of $1,300. He owed $500 on the fixtures, for which amount he had issued a note payable. Open the books as of June 1, and enter the following transactions for June in the ledger accounts given after the transactions for June:

June 2 Purchased merchandise on credit from Burton Wells Co., $8,950.25. Paid June rent of $150. Purchased insurance for a year for $54, cash.
4 Purchased merchandise for $750 cash.
6 Sold merchandise on credit to T. P. Odgers Mill Co., $1,248.70.
7 Sold merchandise on credit to the Valvuta Mining Co., $1,895.40.
8 Sold merchandise on credit to the Newmont Exploration Co., $2,175.50.
9 Purchased an adding machine for $150 cash.
10 Paid Burton Wells Co. $3,950.25 cash and gave them a 30-day 5 per cent note payable for $5,000. Sold merchandise for $785.10 cash.
11 Received a check from T. P. Odgers Mill Co. for sale of June 6. Sold merchandise on credit to Hillway Mills, $1,193.25.
12 Purchased a truck for $1,100, paying $500 cash and giving a 6-month 6 per cent note for the balance.
14 Howard Trent withdrew $100 cash. Received merchandise purchased on credit from Chicago Products Co., $1,348.70. Paid freight of $195.70 on this merchandise.
16 Sold merchandise on credit to Newmont Exploration Co., $1,943.75. Purchased merchandise on credit from Black and Hampton Co., $1,535.40.
17 Received a check from Valvuta Mining Co. for the sale of June 7. Sold merchandise on credit to Valvuta Mining Co., $1,365.70.
19 Paid Chicago Products Co. for merchandise purchased on June 14.
20 Sold merchandise on credit to T. P. Odgers Mill Co., $1,363.70.
21 Purchased a desk and chairs for the office for $95.60 cash.
23 Received a check from Newmont Exploration Co. for the sale of June 8.
24 Paid Black and Hampton Co. $535.40 cash and gave them a 60-day 6 per cent note for the balance of their account.
26 Received a check from Hillway Mills for sale of June 11.
27 Sold merchandise on credit to Hillway Mills, $1,236.80.
30 Paid sales salaries for June, $225, office salary of $150, and heat and light of $38.60. Paid note payable for $500 (no interest).

You will need the following accounts for which you should allow the number of lines shown in parentheses after each account: Cash (16), T. P. Odgers Mill Co. (5), Valvuta Mining Co. (5), Newmont Exploration Co. (5), Hillway Mills (5), Reserve for Doubtful Accounts (3), Inventory (5), Prepaid Insurance (3), Sales Fixtures (3), Reserve for Depreciation of Sales Fixtures (3), Office Fixtures (3), Reserve for Depreciation of Office Fixtures (3), Delivery Equipment (3), Reserve for Depreciation of Delivery Equipment (3), Accrued Taxes Payable (3), Accrued Interest Payable (3), Burton Wells Co. (5), Black and Hampton Co. (5), Chicago Products Co. (3), Notes Payable (5), Howard Trent, Proprietorship (5), Howard Trent, Personal (3), Sales (12),

Purchases (5), Freight In (3), Cost of Goods Sold (5), Sales Salaries (3), Rent (3), Office salaries (5), Sundry Expenses (3), Tax Expense (3), Interest Expense (3), Bad Debts (3), Depreciation of Sales Fixtures (3), Depreciation of Office Fixtures (3), Depreciation of Delivery Equipment (3), Profit and Loss (14).

(b) Make the adjusting entries for the following:

Inventory, June 30, $8,700.00
Estimated taxes for June, $15.80
Insurance, $4.50
Accrued interest (no interest on note recorded on June 1).
Depreciation of equipment, 10 per cent per year. Depreciate the equipment for one month, except desk and chairs on which depreciation is disregarded.
Bad debts are estimated to be 0.5 per cent of sales.

(c) Make the closing entries.

10. The following is a trial balance made up from the books of the Miles Supply Co. after all the adjusting entries, except those for the cost of goods sold, were made.

Trial Balance
December 31, 1944

Cash	$ 4,000.00	
Accounts Receivable	7,000.00	
Reserve for Doubtful Accounts		$ 350.00
Inventory, Jan. 1, 1944	8,000.00	
Prepared Insurance	400.00	
Equipment	20,000.00	
Reserve for Depreciation of Equipment		1,400.00
Accounts Payable		3,000.00
Mortgage Payable		10,000.00
Miles Supply Co., Proprietorship		23,150.00
Sales		71,150.00
Sales Returns and Allowances	1,600.00	
Sales Discounts	300.00	
Purchases	45,000.00	
Purchase Returns and Allowances		2,000.00
Freight In	1,000.00	
Advertising Expenses	6,000.00	
Freight Out	1,500.00	
Sales Salaries	9,000.00	
Office Salaries	6,000.00	
Bad Debts	150.00	
Depreciation of Equipment	900.00	
Insurance Expense	200.00	
	$111,050.00	$111,050.00

The cost of the inventory on December 31, 1944, was $5,000.

(a) Open a Cost of Goods Sold account and a Profit and Loss Summary account, and make the entries in these accounts; you need not make entries in any other accounts.

(b) Make up the trial balance after the books are closed.

CHAPTER IX. SOURCES OF ENTRIES, BOOKS OF ORIGINAL ENTRY

Sources of Entries. The source of most entries is the business papers of the enterprise. Entries should not be made direct to the general ledger accounts, but should be made first in other books called *books of original entry*. The reasons for this procedure will soon be given. First, we shall discuss the business papers of an enterprise.

It would be almost impossible to conduct a business without the use of business papers. Examples of these papers are the sales invoice, the purchase invoice, checks, notes receivable, and notes payable. There are many others, some of which will be explained and illustrated in this and later chapters.

The business papers of an enterprise are usually standardized in form, and as a result a person unfamiliar with the books and the accounting procedure can soon learn to prepare them. Because of the use of standardized forms, fewer skilled office employees are needed, and the entry of the data in the books is facilitated.

These papers provide the details of the transactions, and frequently the only available details. Consequently they may be used to serve as an explanation of the transactions, as legal evidence of the transactions, and as a source of statistical information.

Reference is usually made in the books of account to the papers that were the source of the entry, each particular kind being numbered, and the numbers entered in a special column or as part of the explanation in the book of original entry. In this way explanations in the books of account may be very brief, the reference to the number of the business paper usually being sufficient.

Should litigation ever arise over a particular transaction, the business papers and the books of original entry usually provide the best evidence of the transaction and of the intention of the parties, and are admissible in court as evidence.

Statistical data concerning sales, purchases, and customers, and much other data may be obtained from these papers.

Entries are often made direct from the business papers to accounts in subsidiary ledgers (never to accounts in the general ledger), summaries being entered in the general books. This procedure will be explained later.

Finally, business papers may serve as the means of instructing employees. For example, employees who fill orders usually do so from a sales invoice or some such paper. This paper serves as the authority for filling the order and also provides the details of the order.

To summarize, we may say that business papers serve in the following ways:

As labor-saving devices
As an explanation of the transaction
As legal evidence of the transaction
As the source of much statistical data
As the source of entries in books of original entry and to accounts in special ledgers
As a means of instructing employees.

Only a few of the more common types of business papers will be discussed in this volume, and this chapter will be devoted to papers used in sales and purchase transactions. In later chapters, notes, checks, bills of exchange, and some of the papers used in manufacturing will be explained.

Papers Used in Sales Transactions. Neither the business papers used nor the procedure followed in making sales is likely to be exactly the same in any two different companies. The papers and procedures described in this chapter, however, will serve as a basis for understanding the different methods that may be followed.

Except in retail stores, the first step in a sales transaction is ordinarily the receipt of the written order from the customer. Then some or all of the following steps may be taken:

The order is checked with the stock to determine whether or not the goods are on hand.

The order is referred to the credit department for approval.

Papers such as shipping orders are made out to notify the persons who fill the orders to collect the merchandise and ship it to the customer.

The invoice is made out.

The bill of lading is made out.

Monthly statements are sent to the customer.

A credit memorandum, often called a credit memo, may be sent to the customer if he returns goods or if an allowance is made to him.

A sale is always the result of either a written or a verbal order. Except when the customer actually selects the merchandise, as in a store, it is preferable to obtain a written order. In this way misunderstandings may be avoided.

After the order has been received it may be checked with the merchandise on hand or with the manufacturing department to determine whether shipment can be made within the time designated by the customer.

The order may be referred to the credit manager. This is usually done when an order is received from a new customer; and even orders from regular customers may be referred to the credit department for approval. This is sometimes done as a matter of regular business routine. In other instances the credit manager may notify the sales department, or the order department, to refer orders from certain customers to him.

When an order has been approved by the proper persons, steps are taken to have that order filled. If the goods must be manufactured, papers are made out to instruct the manufacturing department what to do. If the goods are in stock, but are located in many different departments, orders may be made out and sent to each department to instruct the departments to deliver the merchandise to the shipping department. When the goods are in stock and the enterprise has only one department, only one order, called a *shipping order*, is likely to be made out. Even in a business with more than one department this order may be all that is needed.

A shipping order is illustrated below:

SHIPPING ORDER
THE WACO COMPANY
Seattle, Wash.

Invoice No. 425 — Date: May 3, 1940
Sold to: Central Supply,
425 X Street,
Tacoma, Wash.
Purchaser's Order No. 65
Shipped: G. N. Railway — Date: May 4, 1940

Quantity	Description
20	Cases XY Salmon
40	Cases XZ Salmon

A shipping order contains the name of the customer to whom the merchandise is to be shipped, his address, the description of the goods, and any other information desired for recording purposes. Such orders are not used by all enterprises. Obviously, it would not be used by the typical retail store. Even some manufacturing and wholesale firms might find it unnecessary if the shipping department fills the order from goods already in stock. A sales invoice may be made out from the customer's

order, and a copy sent to the shipping department to serve as a shipping order. However, it is usually better to use a shipping order so that the shipping orders may be checked against the invoices as a means of internal control.

A sales invoice is illustrated below:

SALES INVOICE
THE WACO COMPANY
Seattle, Wash.

Invoice No. 425 — Date: May 3, 1940
Sold to: Central Supply,
425 X Street
Tacoma, Wash.
Purchaser's Order No. 65 — Terms: 2/10, n/30
Shipped: G. N. Railway — Date: May 4, 1940

Quantity	Description	Unit Price	Amount
20	Cases XY Salmon	4.80	96.00
40	Cases XZ Salmon	4.60	184.00

The sales invoice usually contains the same information as the shipping order and in addition the prices and terms of credit. Invoices are usually made out at least in triplicate. The original of the invoice is sent to the customer; copies may be sent to the shipping department, to the accounting department, and to any other department, such as the statistical department, that might require the data on the invoice. Ordinarily the shipping department will not receive a copy of the invoice if it receives a shipping order.

The sales invoice may be made out direct from the customer's order, as is often done when the goods are in stock and are shipped almost immediately on receipt of the order. Or the invoice may not be made out until the accounting department receives notice from the shipping department that the goods are shipped. Ordinarily, sales are not recorded until the merchandise is shipped to the customer.

The sales invoice made out by a retail store is called a *sales ticket.* Sales tickets are made out in duplicate or in triplicate, and the original is given to the customer. A copy, or the copies, are sent to the accounting department to serve as the basis of the accounting records. The following is an illustration of a sales ticket:

A. B. JONES COMPANY
1620 Wacker Drive
Chicago, Ill.

No. 1625 Date: May 8, 1940

A. E. Green,
1425 North Street.

Quantity	Description	Amount
2 Dz.	Eggs @ .40	.80
1 Lb.	Butter	.40
		1.20

To ship goods to a customer the shipping clerk makes out a *bill of lading* on a standard form prescribed by the Interstate Commerce Commission. It has space for the number of articles, the classification, and the freight rate. It also contains the provisions of the contract which is entered into with the transportation company, which is known as a common carrier.

Bills of lading are of two types: the straight bill of lading, and the order bill of lading. The straight bill of lading is not negotiable, but the order bill of lading is negotiable. The straight bill of lading is ordinarily used, but the order bill of lading is used when the shipper requires payment for the goods before they are delivered to the customer. Payment is obtained by the seller drawing a draft on the purchaser, to which the bill of lading is attached, and sending the same for collection through a bank. When the customer pays or accepts the draft, the bank indorses the bill of lading and delivers it to the customer, who can then obtain the goods from the transportation company by delivering to it the bill of lading.

Bills of lading are made out in triplicate. The original is signed by the railway agent and is given to the shipper, who sends it to the customer. The second copy is called the *shipping order*, and must not be confused with the shipping order used within the business. It is signed by the shipper and is retained by the railway as its authority to ship the goods. The third copy, called the *memorandum* or "memo," is signed by both the shipper and the railway agent and is retained by the shipper as his evidence of the shipment of the goods.

At the end of some period of time, usually a month, statements of account are ordinarily made out and mailed to customers. Retail stores

almost always send such statements to their customers. Wholesale and manufacturing enterprises usually send out statements except when they receive payment for each invoice instead of by the month. A statement of account is illustrated below:

STATEMENT OF ACCOUNT
THE LINCOLN MANUFACTURING COMPANY
415 7th Avenue
New York, N. Y.

Sold to: Western Pulp and Paper Company
185 Market Street
Tacoma, Wash.

Date	Invoice No.	Charges	Credits	Balance
1944				
May 1	1598	1,894.20		1,894.20
12	1642	666.10		2,560.30
25			1,894.20	666.10
27	1992	716.20		1,382.30

These statements provide the customer with a summary of the transactions for the month. The balance at the beginning of the month is given, the debits for the month, the credits, and finally the balance at the end of the month. The amount of detail included varies. Retail stores may list each item sold. Manufacturers and wholesalers will ordinarily list the invoice numbers, the dates, and the amounts. Statements of account, in addition to serving as a reminder that the bill is due, enable the customer to compare the statement with his own records.

Another document that is sometimes made out as a result of a sales transaction is a credit memorandum or *credit memo*. A credit memo is sent to a customer to notify him that a special credit has been made to his account. This is done when the customer returns goods or when an allowance is made to him. Allowances may be made to customers for many reasons: because of damaged or defective goods, because of over or under shipment, because of errors in price or computation, or because the goods were inferior in quality to those ordered.

The credit memo is almost exactly like the invoice except that the lines are sometimes printed in red to distinguish it from the invoice.

CREDIT MEMORANDUM
THE HURLEY MANUFACTURING COMPANY
1695 9th Avenue
New York City, N. Y.

To: Arthur Green and Company
Millbank
Oregon

We credit your account as follows:

June 2	For repairs to 1 M. and S. Machine	86.20

The credit memo is ordinarily made out at least in duplicate. The original is sent to the customer and the duplicate to the accounting department, where it becomes the source of entries for sales returns and allowances which will be explained later.

Business Papers Used in Purchase Transactions. When goods are purchased, the following business papers are commonly used:

The purchase requisition
The purchase order
The purchase invoice.

The purchase requisition is a written request to purchase goods, sent to the purchasing department by some authorized individual or department. Its purpose is to provide the purchasing agent with both an adequate description of the goods wanted and the time they are needed. Purchase requisitions for materials carried in stock are usually made out from inventory records.

PURCHASE REQUISITION No. 145

B. C. Endorf and Company — Date Issued: May 4, 1944
Account: Stores 115 — Date Required: June 16, 1944

Quantity	Description
1	NX-4 Lathe

Approved ______ Ordered ______
Purchase Order No. ______ By ______

From the purchase requisitions, or inventory records, purchase orders are made out by the purchasing department and sent to the vendor to provide him with a description of the articles and the number ordered. Practice varies as to the number of copies of the purchase order which are made out. The original is sent to the vendor, and a copy is retained in the files of the purchasing department. If the purchase order was made out from a purchase requisition, a copy may be sent to the department which made out the requisition. And a copy may be sent to the receiving department or any other department which may use the data on the order.

PURCHASE ORDER

B. C. Endorf and Company
316 Martin Street
New York, N. Y.

No. 132
Date: May 5, 1936

To: Tool Supply Co.,
Address: 942 9th Street
Providence, R. I.

Ship via: Truck
To: New York, N. Y.
Wanted: June 16

Quantity	Description	Amount
1	NX-4 Lathe	1,240.16

The purchase invoice, which is the sales invoice of the vendor, is received by the purchaser from the vendor. The purchaser will usually receive the purchase invoice before, or no later than, the time he receives the goods. The invoice contains the purchaser's name, the number of articles shipped, the description of the articles, the price, the terms, and any other pertinent information relating to the purchase of the merchandise.

When the purchase invoice is received, it is usually numbered by the purchaser and sent to the purchasing department, where it is checked with the purchase order. The purchasing department should stamp or in some way show its approval on the invoice. The invoice may then be sent to the receiving department or to the accounting department.

The receiving department will either check the goods, when received, with the data on the invoice, or it will make out a receiving record which will be sent to the purchasing department to be checked with the invoice.

When the invoice has been approved by the purchasing department and the receipt of goods is verified by the receiving department, the invoice may be recorded and paid at the proper time by the accounting department.

The entries to record purchases and to credit the accounts payable are made from the purchase invoices. Ordinarily the purchase invoices are not recorded until the goods have been received and checked with the invoice. If there are any shortages, these are usually deducted from the amount of the invoice and the net amount only is entered on the books.

Books of Original Entry. Data from the business papers to be entered in the general ledger should always be entered in another book or books before being entered in the ledger accounts. Such books are called *books of original entry* or *journals.* The financial details of the transactions are entered in these books in such a way that a summary of the transaction, or transactions, is provided in convenient form for entry to the ledger accounts. When the data from the books of original entry are entered in the ledger accounts, the entries are said to be *posted,* and the procedure is known as *posting.*

As a very minimum, one book of original entry called the *general journal,* or *journal,* should be used. Ordinarily, however, more books of original entry, of which the following are fundamental, are needed:

The sales journal
The purchase journal
The cash receipts journal
The cash disbursements journal
The general journal.

In rare instances satisfactory records may be provided by the use of one book of original entry, the general journal, and the ledger. When this is so, all transactions—sales, purchases, cash receipts, cash disbursements, adjusting entries, and closing entries—are entered in the general journal and posted to the ledger. Since one book of original entry is seldom sufficient, and since the students can see the purpose of books of original entry much more readily if we first discuss some of the other books of original entry, we shall start with a discussion of the sales journal.

The Sales Journal. Important data from the sales invoices are usually entered in a book called the sales journal, the sales book, the sales register, or the sales record.

To illustrate, let us consider the sales on credit made by the Builders Supply Company during June, 1944. Since this company made comparatively few sales, the data from each invoice may be entered in the sales journal. The following is a summary of the details on the sales invoices for June:

Date	*Invoice Number*	*To Whom Sold*	*Terms*	*Amount*
June 3	48	A. T. Wright & Co.	1/10,n/30	$ 892.60
7	49	E. S. Sells	1/10,n/30	765.10
10	50	W. B. Hurl	1/10,n/30	950.75
15	51	S. W. Mason	2/10,n/30	1,529.40
21	52	E. L. Green	1/10,n/30	972.15
26	53	A. B. Smythe	2/10,n/30	1,115.70
29	54	H. B. Benge	1/10,n/30	793.20

These facts would be entered in a sales journal almost exactly as they are listed above.

Sales Journal — Page 6

Date		Invoice Number	Account Debited	Terms	R	Amount		
June	3	48	A. T. Wright & Co.	1/10,n/30	26		892	60
	7	49	E. S. Sells	1/10,n/30	22		765	10
	10	50	W. B. Hurl	1/10,n/30	17		950	75
	15	51	S. W. Mason	2/10,n/30	19	1	529	40
	21	52	E. L. Green	1/10,n/30	15		972	15
	26	53	A. B. Smythe	2/10,n/30	23	1	115	70
	29	54	H. B. Benge	1/10,n/30	12		793	20
	30		Sales, Cr.		30	7	018	90

This sales journal has space for the following information which is copied from the invoice:

The date
The invoice number
The account to be debited
The terms
The amount

In addition, a column headed R, the Reference, or Folio column, is included. This column provides space for the number or the page number of the ledger account. Whenever an amount is posted to a ledger account, this number is entered in the Reference column of the book of original entry. If the ledger account is on ledger page 10, the number 10 is entered in the Reference column of the sales journal. At the same time the number of the page of the book of original entry from which the posting was made is entered in the Reference column of the ledger account. This is the column to the left of the Amount column on each side of the ledger account. Thus, the ledger account will contain the page number of the sales journal, and the sales journal will contain the page number of the ledger account. Cross references may then be made easily from one book to another.

Periodically, and no later than the end of the accounting period, the Amount column of the sales journal is totaled. This total is posted as a credit to the Sales account in the general ledger.

If the general ledger contained the customers' accounts, as might be the case in a business with very few customers, *each amount would be debited to a customer's account, in the general ledger.* The following debits

and credits would be made in the general ledger accounts from the sales journal illustrated on page 159.

Debits:	A. T. Wright and Co.	$ 892.60
	E. S. Sells	765.10
	W. B. Hurl	950.75
	S. W. Mason	1,529.40
	E. L. Green	972.15
	A. B. Smythe	1,115.70
	H. B. Benge	793.20
Credit:	Sales	$7,018.90

The debits are usually made to the ledger accounts daily in order to keep the customers' accounts posted up to date. The prefix S, or some other identifying symbol, may be placed in the ledger Reference column to identify the book of original entry from which the postings were made. After the postings are made to the ledger accounts, the accounts would have the following entries from the sales journal on page 159.

H. B. Benge — Page 12

1944 June	29		S6	793	20						

E. L. Green — Page 15

1944 June	21		S6	972	15						

W. B. Hurl — Page 17

1944 June	10		S6	950	75						

S. W. Mason — Page 19

1944 June	15		S6	1,529	40						

E. S. Sells — Page 22

1944 June	7		S6	765	10						

A. B. Smythe — Page 23

1944 June	26		S6	1,115	70						

A. T. Wright and Company **Page 26**

1944 June	3		S6	892	60						

Sales **Page 30**

						1944 June	30		S6	7,018	90

The customers' accounts, however, are rarely opened in the general ledger as were those in the preceding illustrations. Almost every enterprise will have so many customers' accounts that it would be undesirable, if not impracticable, to include them in the general ledger. Ordinarily one account called Accounts Receivable is opened in the general ledger, and the customers' accounts are opened in a special ledger. This method of handling the customers' accounts will be explained in Chapter XI.

The Purchase Journal. A special journal may be used for recording purchases on credit. Entries are made in this journal in much the same way as in the sales journal.

To illustrate the use of the purchase journal, the purchases of the Watson Grocery Store for May, 1944, will be entered in a purchase journal. The following were these purchases:

May 6 Purchase invoice No. 38, Kelly-Smith Co. invoice No. 156, $2,347.20, terms 2/10, n/30.
12 Purchase invoice No. 39, A. E. Walton Co. invoice No. 121, $1,877.40, terms 1/10, n/30.
21 Purchase invoice No. 40, Kelly-Smith Co. invoice No. 185, $2,886.77, terms 2/10, n/30.
29 Purchase invoice No. 41, E. Simpson Co. invoice No. 87, $946.10, terms n/30.

These transactions are entered in the following purchase journal at the amounts shown on the invoice.

PURCHASE JOURNAL

Date		Invoice Number	Account Credited	Explanation	R	Amount		
May	6	38	Kelly-Smith Co.	Inv. No. 156, June 26, 2/10,n/30	65	2	347	20
	12	39	A. E. Walton Co.	Inv. No. 121, May 8, 1/10,n/30	67	1	877	40
	21	40	Kelly-Smith Co.	Inv. No. 185, May 15, 2/10,n/30	65	2	886	77
	29	41	E. Simpson Co.	Inv. No. 87, May 23, n/30	68		946	10
	31		Purchases, Dr.		85	8	057	47

This purchase journal has space for the date, the invoice number, the name of the account to be credited, the explanation, the Reference column, and the amount.

The Date column is for the date on which the goods were received which is usually stamped on the invoice, not for the date of the invoice.

The column headed Invoice Number is for the number stamped on the invoice by the purchaser. Invoices are more easily identified by the purchaser's number than by the vendor's number.

The column headed Account Credited is for the name of the trade-creditor.

The Explanation column is for whatever explanation is necessary. In the preceding illustration, the vendor's invoice number, the date of the invoice, and the terms were entered in this space. If desired, separate columns may be provided for the terms, invoice number, and the date of the invoice.

The Reference column is for the account number or the page number of the ledger account.

The Amount column is for the amount of the invoice.

Obviously, the form of the purchase journal will be different in different business enterprises. There is no such thing as a standard form except for a particular enterprise.

Monthly, or at shorter intervals, the *Amount column is totaled, and this total is debited to Purchases.*

Each amount in the Amount column may be posted to the credit of the respective trade-creditor's account. For example, the first amount in the illustration, $2,347.20, would be posted to the credit of the Kelly-Smith Co. account, an account payable. These amounts are usually posted pretty well up to date, although practice varies with the office procedure for handling purchase discounts and making payments.

The postings from the preceding purchase journal are now illustrated.

Purchases — Page 85

1944 May	31		P5	8,057	47						

Kelly-Smith Co. — Page 65

						1944 May	6		P5	2,347	20
							21		P5	2,886	77

A. E. Walton Co. — Page 67

						1944 May	12		P5	1,877	40

E. Simpson Co. Page 68

						1944 May	29		P5	946 10

The total is debited to the Purchases account, and each amount is entered to the credit of an account payable.

In the Reference columns of the ledger accounts, a prefix P is placed before the page number. This is to identify the book of original entry from which the entry was posted.

The Cash Receipts Journal. Special journals may be used for many transactions other than sales and purchase transactions. A widely used special journal is the cash receipts journal, which is also called the cash receipts book.

To illustrate, let us consider the following transactions for January. 1944:

Jan. 6 Collected cash of $100 from A. Green, on account.
8 Collected cash of $150 for rental of building for January.
9 Collected cash of $50 for interest on NBC bonds.
11 Collected cash of $100 from David Jones in payment of invoice number 175.
18 Collected cash of $75 from O. Singer in payment of invoice number 168.
25 Collected cash of $25 from A. Martin on account.

These transactions are now entered in a cash receipts journal:

Cash Receipts Journal

Date		Account Credited	Explanation	R	Amount	
Jan.	6	A. Green	On account		100	00
	8	Rent Revenue	January rental		150	00
	9	Interest Revenue	Interest on NBC bonds		50	00
	11	David Jones	Invoice No. 175		100	00
	18	O. Singer	Invoice No. 168		75	00
	25	A. Martin	On account		25	00
	31		Cash, Dr.		500	00

In making the entries in this journal, each transaction is analyzed exactly as before. The first entry is a debit to Cash and a credit to A. Green. Since the debits for all the entries are to Cash, no space is provided for the name of the Cash account. The total of the Amount column is debited to Cash. The name of the account to be credited is entered under the caption, Account Credited. When an entry is made in this journal the date is entered in the date column, the name of the account to be credited is entered under that caption, the explanation is entered under that heading, and the amount is entered in the Amount column. The page number, or the number of the ledger account, is entered when the amount is posted to the ledger account.

Each amount is entered as a credit to its respective ledger account. For example, the $150 collected for rent would be credited to the Rent Revenue account. The credits to the accounts are ordinarily posted daily in order to keep these accounts up to date. The Amount column is totaled periodically and this total is debited to Cash. If the volume of cash receipts transactions is large, the total may be posted to the Cash account each day.

All cash receipts are entered in the cash receipts journal. No exception is made to this rule. It is also desirable to deposit all the cash receipts in the bank, and make small cash payments from a petty cash fund which will be explained in Chapter XXI. These rules are followed in order to provide reasonable control over the cash.

The Cash Disbursements Journal. Another common special journal is the cash disbursements journal, sometimes called the cash disbursements book, the cash payments journal, the cash payments book, or the check register.

The following transactions are entered in such a journal:

May 7 Paid rent of $200 for the month of May.
10 Paid Eastern Woolen Mills $125.50 on account.
12 Paid National Supply invoice No. 35, $312.25
14 Paid Aston Jones, a salesman, his salary for two weeks, $75. Paid A. Harber, the bookkeeper, his salary for two weeks, $75.
18 Paid N. Y. C. Wholesale Co. invoice No. 42, $115.60
21 Paid Simpson Bros. $100 on account.
28 Paid Aston Jones his salary of $75. Paid A. Harber his salary of $75.

Cash Disbursements Journal

Date		Account Debited	Explanation	R	Amount	
May	7	Rent Expense	May rent		200	00
	10	Eastern Woolen Mills	On account		125	50
	12	National Supply	Invoice No. 35		312	25
	14	Sales Salaries	Aston Jones—salary		75	00
	14	Office Salaries	A. Harber—salary		75	00
	18	N.Y.C. Wholesale Co.	Invoice No. 42		115	60
	21	Simpson Bros.	On account		100	00
	28	Sales Salaries	Aston Jones—salary		75	00
	28	Office Salaries	A. Harber—salary		75	00
	31		Cash, Cr.		1,153	35

This book has columns for the date, the name of the account to be debited, the explanation, the ledger page number, and the amount. The credits are all to be made to the Cash account, hence no space is needed for the name of the account to be credited.

Each amount in the Amount column is debited to the account named under the heading Account Debited. The Amount column is totaled periodically and the total posted to the credit of the Cash account. In some enterprises it is posted at the end of the month, in others daily.

The Advantages of Special Journals. Special journals bring together in compact form, in one place, the transactions of a particular type. This alone would be important but they result in other advantages, as follows:

A reduction in the labor required to provide records that are mechanically accurate.
The division of labor.
Better methods of internal control.

The use of special journals results in a reduction in the amount of labor for the following reasons: special space may be provided for explanations, fewer errors are made in posting, and if errors are made, they are easier to locate. Explanations may be standardized, kept brief, and omitted from most of the ledger accounts. Finally, postings of the particular type of transaction are reduced almost in half.

Since different people can specialize on particular books, advantages are obtained from the division of labor. Bookkeepers become more efficient; and, what is even more important, people with no knowledge of accounting can be taught how to make entries in these special books. Thus, relatively unskilled persons can be used to do much of the bookkeeping work.

A combination of special journals and special ledgers, which will be discussed in the following chapter, provides greater possibilities of internal control. This is accomplished by dividing the work in such a way that that of one person will serve to verify that of another.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What purposes do business papers serve?
2. Explain how the following business papers are used:

The sales invoice	The sales ticket
The shipping order	The creait memo
The purchase invoice	The bill of lading

3. Under what circumstances is an order bill of lading used?
4. What is a journal? A book of original entry?
5. What is posting?
6. Explain clearly how you would post the data from the following sales journal:

Sales Journal

Date		Invoice Number	Account Debited	Terms	R	Amount	
Aug.	5	168	E. B. Ernst & Co.	2/10, n/30		684	10
	12	169	A. B. White & Son	1/10, n/30		742	80
	17	170	B. F. Humes, Inc.	n/30		816	90
	24	171	Mason & Mason	2/10, n/30		642	70
	28	172	A. D. Duke	1/10, n/30		575	40
						3,461	90

7. Explain clearly how you would post the data from the following purchase journal to the general ledger accounts:

Purchase Journal

Date		Invoice Number	Account Credited	Terms	R	Amount	
Jan.	6	1	Bohn & Company	1/10, n/30		576	00
	11	2	White & Bruer	n/30		684	80
	17	3	B. L. Grimes	2/10, n/30		879	60
	23	4	Urwick & Son	2/10, n/30		320	40
	29	5	Hunton & Luce	1/10, n/30		444	60
						2,905	40

8. The total of the Amount column of the cash receipts book is $1,372.10. To what account would you post this total? Where would the credits equivalent to this total be posted from?

9. The total of the Amount column of the cash disbursements book is $2,342.25. To what account would you post this total? Where would the debits which would equal this total be posted from?

10. What are the advantages of special journals?

LABORATORY PROBLEMS

1. The following were the invoices for the sales on credit for May, 1944:

May 5 Invoice No. 46, E. R. Roin, $175.60, terms 1/10, n/30.
6 Invoice No. 47, J. B. White, $215.80, terms 1/10, n/30.
9 Invoice No. 48, A. E. Brown, $444.60, terms 2/10, n/30.
12 Invoice No. 49, W. E. Stout, $178.90, terms 1/10, n/30.
17 Invoice No. 50, S. G. Breen, $643.70, terms 2/10, n/30.
18 Invoice No. 51, M. N. Barr, $269.40, terms 1/10, n/30.
21 Invoice No. 52, Q. E. Painter, $313.70, terms 2/10, n/30.
23 Invoice No. 53, W. P. Pride, $216.10, terms 2/10, n/30.
26 Invoice No. 54, A. B. Ritchie, $78.10, terms n/30.
28 Invoice No. 55, A. A. Axe, $211.10, terms 2/10, n/30.
31 Invoice No. 56, A. N. Stone, $295.20, terms 2/10, n/30.

(a) Number a sheet of journal paper page 5 and enter the above transactions in a sales journal.

(b) Open T accounts on the lower part of this sheet of journal paper and post to these accounts. The page numbers are to be entered in both books for cross reference. Give each customer's account and the Sales account a number.

2. (a) On a sheet of journal paper, make up a purchase journal with the following columns: Date, Invoice Number, Account Credited, Explanation, Reference, and Amount. You are required to enter the following credit transactions of July, 1944:

July 2 Invoice No. 68, Eastern Bros. invoice No. 115, dated June 23, $895.50, terms 2/10, n/30.
5 Invoice No. 69, Brazier Bros. invoice No. 255, $723.10, dated June 27, terms 3/10, n/30.
7 Invoice No. 70, E. B. Combs invoice No. 68, $586.20, dated July 1, terms 1/10, n/30.
9 Invoice No. 71, H. B. Silk invoice No. 98, $1,195.20, dated July 3, terms 2/10, n/30.

12 Invoice No. 72, T. S. Hoem invoice No. 172, $724.60, dated July 2, terms n/30.
14 Invoice No. 73, A. L. Warner invoice No. 42, $843.10, dated July 6, terms 4 per cent, 10 days E. O. M.
18 Invoice No. 74, S. V. Sertz, invoice No. 133, $316.40, dated July 10, terms 1/10, n/30.
21 Invoice No. 75, W. E. Graham invoice No. 193, $975.40, dated July 7, terms 3/10, n/30.
23 Invoice No. 76, A. D. Cromie invoice No. 94, $496.20, dated July 16, terms 1/10, n/30.
25 Invoice No. 77, E. F. Frank invoice No. 195, $783.25, dated July 15, terms 1/10, n/30.
27 Invoice No. 78, L. O. Nolan invoice No. 114, $963.70, dated July 18, terms 2/10, n/30.

(b) Open T accounts on the lower part of the page, and post the above transactions to the ledger accounts. showing page numbers for cross-reference purposes.

3. The following were the invoices for the sales on credit for June, 1944:

June 2 Invoice No. 55, to S. S. Simons, $348.90, terms 2/10, n/30.
5 Invoice No. 56, E. L. White, $743.80, terms 3/10, n/30.
7 Invoice No. 57, B. B. Ruud, $115.10, terms 1/10, n/30.
14 Invoice No. 58, W. S. Swartz, $593.70, terms 3/10, n/30.
17 Invoice No. 59, M. M. Merlo, $411.60, terms 2/10, n/30.
18 Invoice No. 60, W. W. Hart, $125.10, terms 1/10, n/30.
21 Invoice No. 61, W. E. Watson, $826.70, terms 3/10, n/30.
24 Invoice No. 62, N. R. Norton, $325.40, terms 2/10, n/30.
26 Invoice No. 63, L. E. Lennon, $542.70, terms 3/10, n/30.
28 Invoice No. 64, O. S. Lord, $125.60, terms 1/10, n/30.
29 Invoice No. 65, W. V. Ward, $183.40, terms 1/10, n/30.

(a) On a sheet of journal paper make up a sales journal and enter the above transactions.

(b) On the lower part of the page open T accounts and post to the ledger accounts, showing page numbers for cross-reference purposes.

4. The following were the invoices for the purchases on credit made during April, 1944:

April 1 Invoice No. 91, Crossley Hardware Company invoice No. 616, dated March 18, $793.80, terms 2/10, n/30.
3 Invoice No. 92, Marshall Radio Company invoice No. 442, dated March 21, $616.80, terms 1/10, n/30.
6 Invoice No. 93, Sutton Manufacturing Company invoice No. 143, dated March 23, $894.10, terms 3/10, n/30.
8 Invoice No. 94, Kelley Bros. invoice No. 49, dated March 25, $743.80, terms 1/10, n/30.
12 Invoice No. 95, B. B. Moline Company invoice No. 172, dated April 2, $374.45, terms 2/10, n/30.
14 Invoice No. 96, Macy and Blair invoice No. 62, dated March 29, $144.80, terms n/30.
17 Invoice No. 97, Martin Hardware Company invoice No. 395, dated April 4, $463.70, terms 2/10, n/30.
21 Invoice No. 98, Crossley Hardware Company invoice No. 693, dated March 29, $576.10, terms 2/10, n/30.
22 Invoice No. 99, Kelley Bros. invoice No. 54, dated April 16, $515.20, terms 1/10, n/30.
25 Invoice No. 100, Marshall Radio Company invoice No. 472, dated April 18, $475.60, terms 1/10, n/30.

27 Invoice No. 101, B. B. Moline Company invoice No. 206, dated April 17, $455.10, terms 2/10, n/30.

29 Invoice No. 102, Martin Hardware Company invoice No. 403, dated April 21, $315.10, terms 2/10, n/30.

(a) On one sheet of journal paper make up a purchase journal and enter the above transactions.

(b) On the lower part of the sheet open T accounts and post to these accounts, showing page numbers for cross reference.

5. (a) On one sheet of journal paper make up a sales journal and a cash receipts journal and enter the following transactions (the sales are all credit sales).

May 6 Sale to A. T. Carr, invoice No. 69, terms n/30, $268.10.
8 Sale to M. E. Hurber, invoice No. 70, terms 1/10, n/30, $453.20.
10 Collected $100 rent for May.
12 Sale to A. E. Grand, invoice No. 71, terms 1/10, n/30, $615.25.
14 Received check from A. T. Carr in payment of invoice No. 69, dated May 6.
18 Received check from M. E. Hurber in payment of invoice No. 70, dated May 8.
19 Sale to A. T. Carr, invoice No. 72, terms n/30, $342.70.
24 Received a check from A. E. Grand in payment of invoice No. 71, dated May 12.
26 Sale to W. R. Brill, invoice No. 73, terms 2/10, n/30, $387.60.
28 Received a check from A. T. Carr in payment of invoice No. 72, dated May 19.
29 Sale to A. E. Grand, invoice No. 74, terms 1/10, n/30, $569.80.

(b) On the bottom of this sheet open T accounts and post to the ledger accounts.

6. (a) On one sheet of paper make up forms for a purchase journal and a cash disbursements book and enter the following:

Jan. 2 Purchase invoice No. 1 from Kelly-Holmes, $215, dated Dec. 23, terms 2/10, n/30.
4 Purchase invoice No. 2 from Thomas Bros. $250.50, dated Dec. 29, terms 1/10, n/30.
13 Paid purchase invoice No. 1 of January 2.
Purchase invoice No. 3 from R. S. Binder, $175.80, dated Jan. 7, terms n/30.
15 Paid January rent of $200.
16 Purchase invoice No. 4 from Long and Long $275.30, dated Jan. 10, terms 4%, 10 days, E. O. M.
17 Paid purchase invoice No. 3. Purchased a typewriter for $150 cash.
22 Purchase invoice No. 5 from Bilton Bros., $313.90, dated Jan. 15, terms 1/10, n/30.
24 Purchased office supplies for $25 cash.
26 Purchase invoice No. 6 from Thomas Bros., $184.20, dated Jan. 18, terms 1/10, n/30.
29 Paid a sales salary for January of $175. Paid purchase invoice No. 2.

(b) On the lower part of this sheet open T accounts and post from the books of original entry to these accounts.

CHAPTER X. THE GENERAL JOURNAL

The General Journal. The general journal, often called the journal, is a book in which all original entries may be made, however this is seldom done. Labor is saved and better records provided by using special journals, the general journal being used only for those entries not made in special journals.

Examples of such entries are those:

To open the books.

To record credits to customers for sales returns and allowances.

To record debits to trade-creditors for purchase returns and allowances.

To record purchases and sales when the consideration is a note payable or note receivable.

To correct errors.

To record adjusting and closing entries.

The following is an illustration of a general journal form:

Month	Day	Account Debited Account Credited Explanation	Reference	Amount		Amount	

The journal contains space for:

The date.

The names of the accounts to be debited and credited and an explanation.

The page numbers of the ledger accounts to which the debit and credit are posted.

The amounts; the left-hand column for the debits and the right-hand column for the credits.

For merchandise returned to Harper Supply Company for which credit of $200 was received, an entry would be made to debit Harper Supply Company and to credit Purchase Returns and Allowances, as follows:

June	3	Harper Supply Company	21	200	00		
		Purchase Returns and Allowances	61			200	00
		To record credit memo No. 8, received from Harper Supply Company					

The following is the procedure followed in making journal entries:

The date is entered.

The name of the account to be debited is entered well to the left of the space for the account name, and the amount of the debit is entered in the left-hand column of the two columns for the amount.

The name of the account to be credited is indented somewhat so that it may be readily distinguished from the name of the account to be debited, and the amount of the credit is entered in the right-hand column for the amount.

An explanation of the entry is made. This is started on the line below that on which the name of the account to be credited appears. No part of this explanation is made between the debit and the credit.

When the debit is entered on the debit side of the ledger account, the ledger page number is entered in the Reference column of the journal. In the preceding illustration the Harper Supply Company account is on page 21 of the ledger. The page number of the journal is entered in the ledger account.

When the credit is entered on the credit side of the Purchase Returns and Allowances account in the ledger, the page number of this account is entered in the Reference column. The ledger account Purchase Returns and Allowances of the illustration is on page 61 of the ledger. The journal page number is entered in the Reference column of the Purchase Returns and Allowances account.

Space is usually left between each journal entry so that each entry may be easily distinguished from those preceding and following it.

Advantages of the General Journal. The student is likely to question the value of the general journal, for it saves no labor in posting; in fact the entries in the journal require additional work. He wonders why the entries are not made direct to the ledger accounts. There are several reasons for the use of this journal:

A description of the entire transaction is provided in one place.

Both the debit and credit are included in the journal along with an explanation of the transaction. This eliminates the need of explanations in many of the ledger accounts.

The likelihood of error is reduced and the finding of errors is facilitated. If errors do occur, they are much easier to locate than would be the case if it were necessary to trace the entries back to the business papers.

Both the debit and credit are together and the posting is done when convenient.

Theoretically, the entries are listed in the journal in chronological order, but in practice, especially in larger enterprises, this is not always true. Many of these enterprises use looseleaf journals, the pages of which are often distributed to departments, such as the payroll department, where certain entries are made. These departments may keep a journal page until the page has been filled, or until the end of the month, after which it is returned to the general ledger bookkeeper. Entries dated from the first to the last of the month may appear on any of these journal pages.

Explanation of Journal Entries. An explanation should be made after

each journal entry except the closing entries and some of the adjusting entries which are self-explanatory. The explanation for an adjusting entry, such as that for depreciation, should show the computation of the depreciation or indicate where this computation may be found.

Most business enterprises have a file called the *Journal Voucher File* made up of the papers in which the transactions originated. These papers are filed by number, and the usual explanation under the journal entry is the journal voucher number, such as "Journal Voucher No. 26."

Opening Entries. When an enterpriser starts a business and invests cash alone, the opening entry is made in the cash receipts journal only.

When assets in addition to cash are invested, the opening entry, including the debit to Cash, is made in the journal. A check mark is placed opposite Cash in the Reference column, and the amount is also entered in the cash receipts book where a check mark is placed in the Reference column. For example, Arthur White started an enterprise by investing $2,000 cash and transferring to the enterprise a building valued at $7,000. The opening journal entry is made as follows:

General Journal

May	7	Cash	√	2,000	00		
		Building		7,000	00		
		Arthur White, Proprietorship				9,000	00
		To open books of Arthur White					

The amount of the cash is entered in the cash receipts journal as follows:

Cash Receipts Journal

Date		Account Credited	Explanation	R	General		Cash	
May	7	Arthur White, Proprietorship	Investment	√	2,000	00	2,000	00

The reason the cash is entered in the general journal in opening the books is to have all the details of the opening entry together.

Purchase Returns and Allowances and Sales Returns and Allowances. Since the entries to record purchase returns and allowances and sales returns and allowances are discussed in Chapter XII an explanation of these entries will be deferred until that time.

Note Transactions. Notes received or issued as the consideration for merchandise are also discussed in Chapter XII.

The Correction of Errors. Journal entries are made to correct many types of errors.

A debit of $150 made in error to the Office Supplies account instead of to the Office Equipment account would be corrected by the following journal entry:

July	19	Office Equipment Office Supplies To correct entry of July 5, cash disbursements book, page 15		150	00	150	00

This entry results in a credit to the Office Supplies account to offset the debit which should not have been made to that account. The debit places the amount in the Office Equipment account where it belongs.

A debit of $75 made in error to the account of Wm. Brown instead of to the account of A. Brock would be corrected by a journal entry as follows:

Sept.	6	A. Brock Wm. Brown To correct entry sales journal page 25		75	00	75	00

Adjusting and Closing Entries. The adjusting and closing entries are made in the general journal and posted to ledger accounts. To illustrate, let us consider the following data: Mr. A. Andrews started a secondhand machinery business on December 1, 1942, with cash of $2,500 and an inventory of $1,000 taken over from another business. The following entry may be made in the general journal to open the books:

General Journal

Dec.	1	Cash	√	2,500	00		
		Inventory	4	1,000	00		
		A. Andrews, Proprietorship	7			3,500	00
		To open books of A. Andrews as of Dec. 1, 1942					

The cash received is entered in the cash receipts book also and a check mark is placed in the Reference column.

During December the following were the transactions:

The purchases on credit from the Eastern Machinery Company amounted to $1,200.
One machine was sold to the Elco Manufacturing Company for $1,800.
A sales salary of $175 was paid and an office salary of $100 was paid.

The entries for these transactions would be made in the purchase journal, the sales journal, and the cash disbursements journal. After the

opening entry and the transactions for December are posted to the ledger accounts, these accounts would appear as follows:

Cash Page 1

1942 Dec.	31		R1	2,500	00	*1942* Dec.	31		D1	275	00

Elco Manufacturing Co. Page 2

1942 Dec.	31		S1	1,800	00						

Inventory Page 4

1942 Dec.	1		J1	1,000	00						

Eastern Machinery Co. Page 5

						1942 Dec.	31		P1	1,200	00

A. Andrews, Proprietorship Page 7

						1942 Dec.	1		J1	3,500	00

Sales Page 8

						1942 Dec.	31		S1	1,800	00

Purchases Page 9

1942 Dec.	31		P1	1,200	00						

Sales Salary Expense Page 11

1942 Dec.	31		R1	175	00						

Office Salary Expense Page 12

1942 Dec.	31		R1	100	00						

The following information is obtained from which the adjusting entries are to be made. On December 31, the inventory amounted to $900, the unpaid sales salaries to $50, and the bad debts were estimated to be 1 per cent of sales.

The adjusting entries would be made in the general journal as follows:

		Adjusting Entries					
Dec.	31	Cost of Goods Sold	10	1,000	00		
		Inventory	4			1,000	00
		To close initial inventory to Cost of Goods Sold					
	31	Cost of Goods Sold	10	1,200	00		
		Purchases	9			1,200	00
		To close Purchases to Cost of Goods Sold					
	31	Inventory	4	900	00		
		Cost of Goods Sold	10			900	00
		To record final inventory					
	31	Sales Salary Expense	11	50	00		
		Accrued Sales Salaries Payable	6			50	00
		To record sales salaries from Dec. 28 to Dec. 31					
	31	Bad Debts	12	18	00		
		Reserve for Doubtful Accounts	3			18	00
		To record bad debts 1% of sales of $1,800					

After these entries are posted the bookkeeper would take the following trial balance from the general ledger accounts:

A. Andrews

Trial Balance after Adjusting Entries
December 31, 1942

Cash	$2,225.00	
Elco Machinery Co.	1,800.00	
Reserve for Doubtful Accounts		$ 18.00
Inventory	900.00	
Accrued Sales Salaries Payable		50.00
Eastern Machinery Company		1,200.00
A. Andrews, Proprietorship		3,500.00
Sales		1,800.00
Cost of Goods Sold	1,300.00	
Sales Salary Expense	225.00	
Office Salary Expense	100.00	
Bad Debts	18.00	
	$6,568.00	$6,568.00

From this trial balance the entries to close the revenue and expense accounts to the Profit and Loss Summary account may be made:

		Closing Entries					
Dec.	31	Sales	8	1,800	00		
		Profit and Loss Summary	13			1,800	00
	31	Profit and Loss Summary	13	1,300	00		
		Cost of Goods Sold	10			1,300	00
	31	Profit and Loss Summary	13	225	00		
		Sales Salary Expense	11			225	00
	31	Profit and Loss Summary	13	100	00		
		Office Salary Expense	12			100	00
	31	Profit and Loss Summary	13	18	00		
		Bad Debts	12			18	00

Finally, a journal entry would be made to close the balance of the Profit and Loss Summary account to the A. Andrews, Proprietorship account, or to the personal account if one were used.

Dec.	31	Profit and Loss Summary	13	157	00		
		A. Andrews, Proprietorship	7			157	00
		To close the balance of the Profit and Loss Summary account to the A. Andrews, Proprietorship account					

The Columnar General Journal. When the general journal is used as the sole book of original entry, as is done in some small enterprises, a columnar general journal or synoptic journal is used. Such a columnar general journal is illustrated on page 176. But this is not the only use for a columnar general journal. Whenever transactions are made in fairly large volume but not in sufficient volume to justify the use of a special journal, columns may be added to the general journal for these transactions. This use of special columns is explained and illustrated in Chapter XII, but the fundamentals are no different from those discussed here.

The columnar general journal illustrated on page 176 has the following columns:

Two General columns, one for debits, the other for credits
Two Cash columns, one for debits, the other for credits
A credit column for sales
A debit column for purchases
A debit column for freight in
A debit column for sales salaries
A debit column for office salaries
A debit column for sundry selling expenses.

Columnar Journal

Date		Account Name	Explanation	R	General Dr.	General Cr.	Cash Dr.	Cash Cr.	Sales Cr.	Purchases Dr.	Freight-In Dr.	Sales Salaries Dr.	Office Salaries Dr.	Sundry Selling Expense Dr.
Aug.	6	Cash Sales	Inv. 88–103	√			100 00		100 00					
	12	Western Producers	Inv. 313	9		500 00				500 00				
	13	Seattle Supply	Inv. 314	8		400 00				400 00				
	14	Western Producers	Inv. 313	9	500 00			500 00						
	17	A. E. Wilson	Sales Salary Aug. 1–15	√				40 00				40 00		
	17	B. W. Green	Office Salary Aug. 1–15	√				35 00					35 00	
	18	Seattle Supply	Inv. 314	8	400 00			400 00						
	19	Ernst Bros.	Inv. 110	3	200 00				200 00					
		Sundry Selling Expense	ABC Transfer	√				10 00						10 00
	28	A. E. Wilson	Sales Salary Aug. 16–31	√				40 00				40 00		
	28	B. W. Green	Office Salary Aug. 16–31	√				35 00					35 00	
	29	A. L. Smart	To correct error of July 26	41	100 00									
		M. N. Cann		22		100 00								
					1,200 00 √	1,000 00 √	100 00 (1)	1,060 00 (1)	300 00 (20)	900 00 (22)		80 00 (25)	70 00 (27)	10 00 (43)

The first entry on page 176 was made to record the cash sales. A debit was made to Cash and a credit to Sales. Since both these amounts were entered in special columns, a check mark is placed in the Reference column. Amounts entered in special columns are not posted to the ledger accounts, but the total of each special column is posted to its respective account. Each amount in a General column is posted to a ledger account. The page numbers of the ledger accounts are placed in parentheses or circled under the totals posted. Check marks are placed under the totals of the General columns since these totals are not to be posted, but each amount in these columns is posted. Some accountants place check marks, instead of page numbers, under each total as it is posted; this is often done when the enterprise has a standard number of accounts.

The totals of the special columns on page 176 are posted as follows:

Dr. Cash	$ 100.00
Cr. Cash	1,060.00
Cr. Sales	300.00
Dr. Purchases	900.00
Dr. Sales Salaries	80.00
Dr. Office Salaries	70.00
Dr. Sundry Selling Expenses	10.00

Each amount in the two General columns is posted to an account in the ledger.

Before the postings are made the totals of the columns are "cross-footed" to determine that they agree. For the above figures this would be done as follows:

Dr.		*Cr.*	
General	$1,200.00	General	$1,000.00
Cash	100.00	Cash	1,060.00
Purchases	900.00	Sales	300.00
Sales Salaries	80.00		$2,360.00
Office Salaries	70.00		
Sundry Selling Expenses	10.00		
	$2,360.00		

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What entries are usually made in the general journal?

2. Why are these entries made in the general journal instead of direct to the ledger accounts?

3. A sale for $150 made on account to R. E. Wilson was debited in error to A. E. Wilke. Give the entry to correct this error.

4. B. E. Shanks started a business by depositing cash of $3,000 to the credit of the enterprise; in addition he transferred furniture and fixtures valued at $1,200 to the enterprise. Give entries to open the books.

5. T. R. Long started a business by depositing $2,500 cash to the credit of the enterprise. Give the entry to open the books.

6. What entries would you make in the books of original entry to record the following data:

The bad debts for the period were $150.
Depreciation of buildings was estimated to be $225.
Accrued sales salaries amounted to $95.60
Accrued rent receivable amounted to $200.

7. The following were the balances of the merchandise accounts on December 31, 1943: Inventory, $3,000; Purchases, $60,000; Purchase Returns and Allowances, $1,000; Freight In, $3,000. Give the entries to record the cost of goods sold on December 31, 1944, when the inventory was $5,000.

8. The following were the balances of the revenue and expense accounts on December 31, 1944: Sales, $85,000; Cost of Goods Sold, $60,000; Sales Salaries, $7,600; Sales Supplies Used, $2,800; Office Salaries, $3,600; Office Supplies Used, $800; Sundry Office Expenses, $1,600; Bad Debts, $650; Sundry Selling Expenses, $2,700. Give the entries to close the books.

9. Of what value are special columns in the general journal?

LABORATORY PROBLEMS

1. (a) Mr. M. L. Balch, who operates a small store, kept no formal records. You are requested to open a set of books for him. You obtain the following data as of September 1, 19xx:

Cash	$3,825.60	
Notes Receivable	200.00	
Inventory	5,393.10	
Prepaid Insurance	86.90	
Buildings	12,350.40	
Estimated Depreciation of Buildings		$2,319.10
Notes Payable		1,000.00
M. L. Balch Proprietorship		–

Make the opening entries as of September 1, 19xx, in the books of original entry.

(b) The following were the balances of the revenue and expense accounts and some of the asset accounts on December 31, 1944, before the adjusting entries were made. Sales, $88,000; Sales Returns and Allowances, $1,500; Inventory, $6,400; Purchases, $80,300; Freight In, $3,200; Purchase Returns and Allowances, $1,800; Sales Salary Expenses, $1,500; Office Salary Expense, $3,600; Sundry Sales Expenses, $1,200; Sundry Office Expenses, $900; Office Supplies, $95; and Prepaid Insurance, $60.

From the following information make the adjusting entries in the general journal:

Inventory, December 31, 1944, $8,500
Depreciation of buildings, $300
Prepaid insurance, $40
Office supplies on hand, $70
The bad debts were estimated to be 1 per cent of net sales
Unpaid sundry office expenses, $86.

2. (a) The following were the balances of some of the ledger accounts on December 31, 1944: Inventory, December 1, 1944, $1,200.50; Purchases, $10,243.20; Freight and Cartage In, $895.10; Purchase Returns and Allowances, $109.60; Prepaid Rent, $300; Delivery Salaries, $185; Sales, $15,265.40; Sales Returns and Allowances, $525.60; Delivery Equipment, $1,545.10; Reserve for Depreciation of Delivery Equipment, $645.20.

From the following data make the adjusting entries in the general journal:

Inventory, December 31, 1944, $1,645.10
The rent expense for December was $100
Unpaid delivery salaries on December 31, $45
The estimated bad debts on December 31 were 0.5 per cent of sales.

(b) The following were the balances of the revenue and expense accounts and some of the balance sheet accounts on December 31, 1944: Sales, $95,000; Sales Returns and Allowances, $1,000; Cost of Goods Sold, $83,200; Sales Salary Expense, $8,000; Sales Supplies Used, $1,300; Delivery Salary Expense, $2,400; Delivery Supplies Used, $1,800; Office Salary Expense, $2,400; Office Supplies Used, $400; Advertising Expenses, $1,200; Depreciation of Delivery Equipment, $400; Reserve for Depreciation of Delivery Equipment, $1,200; Bad Debts, $425; Interest Expense, $85; Purchase Discounts, $1,865; Reserve for Doubtful Accounts, $915; J. B. Salum Proprietorship, $20,600. You are to make the journal entries to close the books.

3. The following are the balances of the revenue and expense accounts and some balance sheet accounts on December 31, 1944: Sales $58,000, Cost of Goods Sold $47,000, Sales Discounts $500, Sales Returns and Allowances $1,000, Sales Salary Expense $4,700, Buildings $25,000, Reserve for Depreciation of Buildings $8,000, Depreciation of Buildings $1,000, Sales Supplies $425, Sales Supplies Used $515, Prepaid Insurance $415, Insurance Expense $295, Office Salary Expense $3,000, Sundry Office Expenses $810, Telephone and Telegraph Expenses $216, Heat and Light $414, Traveling Expenses $1,400, B. K. Kerns Proprietorship $15,850.

(a) Make journal entries to close the books.

(b) Post to the Profit and Loss Summary account and close this account.

4. The following trial balance was made up before the adjusting and closing entries were made. You are required to make the adjusting journal entries.

Trial Balance
December 31, 1944

Cash	$ 3,500.00	
Accounts Receivable	8,600 00	
Reserve for Doubtful Accounts		$ 600.00
Inventory, Jan. 1, 1944	4,500.00	
Prepaid Insurance	125.00	
Prepaid Rent	600.00	
Land	3,000.00	
Buildings and Equipment	20,000.00	
Reserve for Depreciation of Buildings and Equipment		5,000.00
Delivery Equipment	3,200.00	
Reserve for Depreciation of Delivery Equipment		800.00
Notes Payable		2,000.00
Accounts Payable		3,000.00
J. J. Wilson Proprietorship		11,325.00
Sales		120,000.00
Purchases	79,000.00	
Purchases Returns and Allowances		1,000.00
Freight In	3,000.00	
Sales Salaries	9,600.00	
Advertising Expenses	2,800.00	
Sundry Selling Expenses	1,200.00	
Office Salaries	3,900.00	
Sundry Office Expenses	700.00	
	$143,725.00	$143,725.00

Adjusting Information:

Inventory, December 31, 1944, $3,800.00
Depreciation of buildings and equipment, 5 per cent of cost
Depreciation of delivery equipment, 20 per cent of cost
Prepaid insurance, $80
Prepaid rent, $100
Unpaid sales salaries, $200
Unpaid office salaries, $150

5. The following trial balance was made up after the adjusting entries were made but before the closing entries were made. You are required to make the closing journal entries.

Cash	$ 5,000.00	
Accounts Receivable	8,500.00	
Reserve for Doubtful Accounts		$ 500.00
Inventory	3,000.00	
Prepaid Insurance	95.00	
Sales Supplies	112.00	
Buildings and Equipment	12,500.00	
Reserve for Depreciation of Buildings and Equipment		5,500.00
Accounts Payable		3,000.00
A. B. Hurst Proprietorship		22,692.00
Sales		96,000.00
Sales Returns and Allowances	1,000.00	
Sales Discounts	1,500.00	
Cost of Goods Sold	78,000.00	
Sales Salaries	7,600.00	
Advertising Expenses	2,400.00	
Sales Supplies Used	1,500.00	
Sundry Selling Expenses	1,300.00	
Office Salaries	3,600.00	
Office Supplies Used	100.00	
Depreciation of Buildings and Equipment	500.00	
Bad Debts	960.00	
Interest Expense	25.00	
	$127,692.00	$127,692.00

6. Post the data from the columnar journal on page 176 to T accounts.

7. Open T accounts and post from the following columnar journal:

General Journal

Notes Receivable	Sales Returns and Allowances	Purchases	General	Date		Explanation	R	General	Sales	Purchase Returns and Allowances	Notes Payable
	50.00			Jan.	8	E. B. Marks		50.00			
						To record credit memo. No. 15					
			87.10		12	Northbay Manufacturing Co.				87.10	
						To record merchandise returned on Jan. 12					
		126.80			15	Notes Payable	✓				126.80
						To record purchase invoice No. 5 from A. K. Stam					
			63.40		17	Hilton Bros.					
						Wiles Bros.		63.40			
						Invoice No. 52, Dec. 15, posted in error to Hilton Bros.					
500.00					19	J. E. Hurley		500.00			
						To record 90-day 5% note dated Jan. 18, note No. 1.					
150.00					23	Sales	✓		150.00		
						To record invoice No. 15 and note No. 2.					
		147.20			26	Notes Payable	✓				147.20
						To record purchase invoice No. 8 and note No. 2					
100.00					29	Sales	✓		100.00		
						To record sales invoice No. 21					
750.00	50.00	274.00	150.50					613.40	250.00	87.10	274.00

CHAPTER XI. CONTROL ACCOUNTS. COLUMNAR CASH BOOKS

Control Accounts and Subsidiary Ledgers. When the volume of transactions becomes large, certain recording difficulties arise:

There may be too many entries for one bookkeeper to make.

Too much work may be required to obtain current information that is desired.

The likelihood of error increases.

The preparation of the financial statements may become difficult because of the many accounts in the ledger.

One way to meet such difficulties is to use special ledgers, often called *subsidiary ledgers*. A large number of accounts of a similar class, such as customers' accounts, may be opened in a ledger called the sales ledger, the customers' ledger, the trade-debtors' ledger, or the accounts receivable ledger. In the general ledger, which we shall also call the ledger, one account called Accounts Receivable is opened. This account is known as a *control account* or a controlling account and is said to control the accounts receivable ledger. It controls only in the sense that the balance of this account should equal the total of the balances of all the customers' accounts in the accounts receivable ledger. *A control account provides a summary of data that are recorded in detail elsewhere.*

The segregation of accounts in special ledgers has many advantages. It enables more than one person to make the necessary ledger entries. One person may make the entries in the general ledger, while another person makes the entries in the special ledger. But even if one person can make all the entries, a special ledger is often used for customers' accounts because of other advantages. The control account will provide currently the amount of the accounts receivable. Without a control account this information can be obtained only by adding up the balances of the customers' accounts, and when there are many accounts, this is laborious. Another advantage of the control account method is that it provides a check on the accuracy of the work. Since the balance of the control account must agree with the total of the balances of accounts in the subsidiary ledger, the accuracy of the debits and credits may be verified periodically. This is very important when the volume of transactions is large. Finally, the exclusion of many accounts from the general ledger facilitates the

preparation of the trial balance and statements. If hundreds of customers' accounts were included in the general ledger, the trial balance would be long and cumbersome, and it would be necessary to prepare a summary of all these accounts in order to make up the balance sheet.

A control account, called Accounts Payable, and a subsidiary ledger, called the accounts payable or trade-creditors' ledger may be used for the accounts payable.

Basis for the Segregation of Accounts in a Special Ledger. Accounts not needed for the preparation of the balance sheet and the statement of profit and loss may be placed in special or subsidiary ledgers. The basis for the segregation of a group of accounts in a special ledger is their relationship to an account or accounts that will appear on the balance sheet or statement of profit and loss. Customers' accounts and trade-creditors' accounts are commonly opened in subsidiary ledgers. (The trade creditors are those creditors who sell stock-in-trade to the enterprise.) Ordinarily there are enough of these accounts to justify their segregation.

A few examples of general ledger control accounts and the accounts in the related special ledgers are given in the following tabulation:

General Ledger Account	*Special Ledger*	*Nature of Accounts*
Accounts Receivable	Accounts receivable ledger or sales ledger	Customers' accounts
Accounts Payable	Accounts payable ledger or purchase ledger	Trade-creditors' accounts
Buildings and Equipment	Plant ledger	Accounts for various assets making up plant and equipment
Factory	Factory ledger	All the manufacturing accounts
Selling Expenses	Selling expense ledger	All selling expense accounts

Several accounts receivable ledgers or accounts payable ledgers may be used, thus enabling more than one person to post to the individual accounts. When this is done, a control account is opened for each special ledger. When more than one accounts receivable ledger is used, the accounts must be segregated on some basis. In a retail business the accounts are usually segregated alphabetically; those from A through G might be placed in one ledger; those from H through R in another; and those from S through Z in a third. For these three ledgers, three control accounts with the following captions would be opened in the general ledger: Accounts Receivable A to G, Accounts Receivable H to R, Accounts Receivable S to Z. Only customers' accounts arising in the ordinary course of business are placed in the accounts receivable ledger or ledgers. Accounts for other

receivables, such as claims against officers or employees, are opened in the general ledger, or in another special ledger. Large industrial companies which purchase goods for employees often use an employees' ledger for these accounts.

Another special ledger often used is the plant ledger. A *plant ledger* is almost indispensable if the business owns buildings and equipment which depreciate at different rates. The plant ledger accounts are often opened on cards,[1] a card being used for each machine or group of like machines purchased at the same time. The number of accounts used will be determined by the problems that arise in the depreciation computations. The present tendency is toward more detailed depreciation computations because of preferential treatment received from the Bureau of Internal Revenue when one has the facts.

A manufacturing company will often use a factory ledger in which the manufacturing accounts are opened, the only point of similarity in many of these accounts being that they all relate to manufacturing. The factory ledger would contain accounts for materials, labor, supplies used, and the like.

Enterprises with many expense accounts often use a subsidiary ledger for selling expenses and another for general and administrative expenses.

Recording Sales When Control Accounts Are Used. The methods of recording sales under the control account method vary with the volume of the transactions. The method first illustrated is that under which the volume of transactions is sufficiently small so that it is practicable to enter each invoice in the sales journal. Under the heading Direct Posting, methods used when the volume of transactions is large will be illustrated. These other methods are only slightly different from that illustrated here.

The following is an illustration of a sales journal of the type with which the reader is already familiar.

Sales Journal Page 1

Date		Invoice Number	Account Debited	Terms	R	Amount	
Jan.	2	1	Western Sales	2/10, n/30	R38	258	00
	2	2	Pacific Grocers	2/10, n/30	R25	193	40
	3	3	New Way Supply Company	2/10, n/30	R19	313	20
	4	4	Orient S. S. Company	1/10, n/30	R21	175	40
	5	5	Western Wholesale	2/10, n/30	R38	195	50
	31	45	Pacific Grocers	2/10, n/30	R25	125	00
			Accounts Receivable, Dr.		5	16,765	00
			Sales, Cr.		20		

[1] See p. 339 for an example of a plant ledger card.

The only amount that would be posted to the general ledger accounts is the total, $16,765.00. This amount is posted as a debit to Accounts Receivable and a credit to Sales, as follows:

Accounts Receivable Page 5

1942 Jan.	31		S1	16,765	00						

Sales Page 20

						1942 Jan.	31		S1	16,765	00

Equal debits and credits have now been posted to the general ledger accounts, additional detail not being recorded in these accounts.

Each amount is posted to the debit of the respective customer's account in the accounts receivable ledger. The page number of the customer's account is entered in the Reference column of the sales journal. In this illustration the prefix R is placed before the page number to show that the postings were made to the accounts receivable ledger. The use of the prefix is often unnecessary in practice, and has been made in this illustration simply to emphasize the fact that postings are made to a different ledger. On the other hand a prefix such as S is ordinarily placed in the Reference columns in the ledger accounts to designate the book of original entry from which the posting was made.

The debits to the customers' accounts are ordinarily made daily in order to keep these accounts up to date.

The control account method of recording sales is now more fully illustrated.

Illustration of Postings from the Sales Journal When Control Accounts Are Used. To illustrate the control account method of recording accounts receivable, the following transactions are entered in the sales journal and posted to the ledger accounts:

Date	*Invoice Number*	*Sold to*	*Amount*
Jan. 2	1	W. Green	$1,200.00
3	2	S. White	2,500.00
4	3	T. Brown	1,600.00
10	4	W. Sloan	1,200.00
20	5	B. Young	2,800.00
28	6	R. Herd	500.00
			$9,800.00

Since all customers were granted the same terms it is not necessary to enter the terms in the sales journal. These transactions are entered in the sales journal exactly as if the control account method were not used:

Sales Journal — Page 1

Date		Invoice Number	Account Debited	R	Amount	
Jan.	2	1	W. Green	8	1,200	00
	3	2	S. White	19	2,500	00
	4	3	T. Brown	3	1,600	00
	10	4	W. Sloan	15	1,200	00
	20	5	B. Young	28	2,800	00
	28	6	R. Herd	11	500	00
	31		Accounts Receivable, Dr.	5	9,800	00
			Sales, Cr.	11		

The only amount posted to the general ledger is the total of $9,800.00. *This total of the Amount column of the sales journal is posted to the debit of the control account Accounts Receivable and to the credit of the Sales account, as follows:*

General Ledger

Accounts Receivable — Page 5

1942											
Jan.	1	Balance	√	2,200	00						
	31		S1	9,800	00						

Sales — Page 11

						1942					
						Jan.	31		S1	9,800	00

Each amount in the Amount column of the sales journal is posted to a customer's account in the accounts receivable ledger.

Accounts Receivable Ledger

T. Brown — Page 3

1942											
Jan.	4		S1	1,600	00						

W. Green — Page 8

1942											
Jan.	2		S1	1,200	00						

R. Herd — Page 7

1942											
Jan.	1	Balance	√	1,000	00						
	28		S1	500	00						

W. Sloan Page 15

1942 Jan.	10		S1	1,200	00						

S. White Page 19

1942 Jan.	1	Balance	√	1,200	00						
	3		S1	2,500	00						

B. Young Page 28

1942 Jan.	20		S1	2,800	00						

The Need for a Columnar Cash Receipts Journal. If the cash receipts journal contains only one column, each credit to a customer's account must be posted twice, once to the accounts receivable control account and once to the customer's account. To avoid this double posting a special Accounts Receivable column is provided in the cash receipts journal. Credits to customers' accounts are entered in this column, the total of which is posted to the credit of the control account, Accounts Receivable. Each individual amount in the column is posted to the credit of the respective customer's account.

Another special column frequently required in the cash receipts journal is one for *sales discounts.* Unless this column is used it would be difficult to record the receipt of an amount such as $98 from a customer in payment of his invoice for $100 less 2 per cent discount. With an Accounts Receivable column, a Sales Discounts column, and a Cash column the sales discount can be entered readily. If $98 were received from Mr. Herod in payment of an invoice for $100, the $98 would be entered in the Cash column, the $2 sales discount would be entered in the Sales Discount column, and the $100 would be entered in the Accounts Receivable column.

The use of special columns is not restricted to overcoming bookkeeping difficulties. Whenever there are enough transactions of any type to warrant the saving in labor that would result from posting a total instead of each amount, a special column may be used. *In fact, one of the purposes of special columns is to enable us to save labor by posting the total instead of each amount.*

The Columnar Cash Receipts Journal. A four-column cash receipts journal is now illustrated. The customers' accounts are the same as those used on page 185 in the preceding illustration.

The following transactions are entered in a four-column cash receipts book:

Jan. 9 Collected $1,176 from W. Green as payment of invoice No. 1 for $1,200 less 2 per cent discount.
11 Collected $100 rent for January.
12 Collected $1,568 from T. Brown as payment on invoice No. 3 for $1,600 less 2 per cent discount.
19 Collected $882 from W. Sloan as payment on invoice No. 4 for $900 less 2 per cent discount.
25 Collected $1,800 from S. White on account.

Cash Receipts Journal

Date		Account Credited	Explanation	R	General		Account Receivable		Sales Discounts		Cash	
Jan.	9	W. Green	Invoice No. 1—less 2%	8			1,200	00	24	00	1,176	00
	11	Rent Revenue	January rent	38	100	00					100	00
	12	T. Brown	Invoice No. 3—less 2%	3			1,600	00	32	00	1,568	00
	19	W. Sloan	Invoice No. 4—less 2%	15			900	00	18	00	882	00
	25	S. White	On account	19			1,800	00			1,800	00
				√	100	00						
	31	Accounts Receivable, Cr.		5			5,500	00				
		Sales Discounts, Dr.		36					74	00		
		Cash, Dr.		1							5,526	00

This cash receipts journal has three special columns and a column ordinarily called the General or Sundries column. The special columns are a credit column for Accounts Receivable, a debit column for Sales Discounts, and a debit column for Cash. The General column is for any credits for which there is no special column.

The entry for the receipt of cash of $1,176 on Jan. 9 from W. Green in payment of his bill for $1,200 less the sales discount of $24 would require the following debits and credits:

Dr. Cash	$1,176.00
Dr. Sales Discounts	24.00
Cr. W. Green	1,200.00

These amounts are entered in the cash receipts journal, the debit of $1,176 to Cash being placed in the Cash column, the debit of $24 to Sales Discounts being placed in the Sales Discounts column, and the credit of $1,200 to W. Green being placed in the Accounts Receivable column. The name, W. Green, is entered in the space under the heading Account Credited, and the explanation of the entry is entered in the space captioned Explanation.

The entry to record the collection of $100 rent is a debit to Cash and a credit to Rent Revenue. The debit of $100 is entered in the Cash column, and the credit of $100 to Rent Revenue is entered in the General column,

since no special column was provided for Rent Revenue. The reader should have no difficulty in interpreting the remaining entries.

Before the amounts are posted to the general ledger accounts, the totals of the columns with debit totals are compared with the totals of the columns with credit totals. This is called "cross-footing" the totals of the columns, or the totals are said to be "cross-footed." The totals of the columns of the cash receipts book illustrated on page 188 are "cross-footed" as follows:

Debits		*Credits*	
Cash	\$5,526.00	General	\$ 100.00
Sales Discounts	74.00	Accounts Receivable . . .	5,500.00
	\$5,600.00		\$5,600.00

The total of all debit columns should equal the total of all credit columns. When these totals have been verified, the entries to the general ledger accounts may be made as follows:

The Cash account is debited \$5,526.00, which is the total of the Cash column.

The Sales Discount account is debited \$74.00, which is the total of the Sales Discount column.

The Accounts Receivable account is credited \$5,500.00, the total of the Accounts Receivable column.

Each amount in the General column is posted as a credit to the respective account in the general ledger.

If the amounts have been correctly posted, equal debits and credits have been made in the general ledger.

General Ledger Accounts

Cash — Page 1

1942											
Jan.	1	Balance	√	6,330	00						
	31		R1	5,526	00						

Accounts Receivable — Page 5

1942						*1942*					
Jan.	1	Balance	√	2,200	00	Jan.	31		R1	5,500	00
	31	(6,500.00)	S1	9,800	00						

Sales Discounts — Page 36

1942											
Jan.	31		R1	74	00						

Rent Revenue — Page 38

						1942					
						Jan.	11		R1	100	00

Each amount in the Accounts Receivable column is posted to the credit of an account in the accounts receivable ledger.

Accounts Receivable Ledger

T. Brown — Page 3

1942 Jan.	4		S1	1,600	00	1942 Jan.	12		R1	1,600	00

W. Green — Page 8

1942 Jan.	2		S1	1,200	00	1942 Jan.	9		R1	1,200	00

R. Herd — Page 14

1942 Jan.	1	Balance	√	1,000	00						
	28		S1	500	00						

W. Sloan — Page 15

1942 Jan.	10		S1	1,200	00	1942 Jan.	19		R1	900	00

S. White — Page 19

1942 Jan.	1	Balance	√	1,200	00	1942 Jan.	25		R1	1,800	00
	3		S1	2,500	00						

B. Young — Page 28

1942 Jan.	20		S1	2,800	00						

The following is a list of the balances of the accounts in the accounts receivable ledger:

R. Herd	$1,500.00
W. Sloan	300.00
B. Young	2,800.00
S. White	1,900.00
	$6,500.00

This total agrees with the balance of the Accounts Receivable control account, which is $6,500.

The postings from the sales journal and the cash receipts journal are illustrated in more compact form on page 191.

Postings from the sales journal.

Sales Journal — Page 1

Invoice Number	Date		Account Debited	R	Amount	
1	Jan.	2	W. Green	R8	1,200	00
2		3	S. White	R19	2,500	00
3		4	T. Brown	R3	1,600	00
4		10	W. Sloan	R15	1,200	00
5		20	B. Young	R28	2,800	00
6		28	R. Herd	R7	500	00
				5/11	9,800	00

Accounts Receivable Ledger

W. Green	Page 8
(S1) 1,200	

S. White	Page 19
(S1) 2,500	

T. Brown	Page 3
(S1) 1,600	

W. Sloan	Page 15
(S1) 1,200	

B. Young	Page 28
(S1) 2,800	

R. Herd	Page 7
(S1) 500	

General Ledger

Accounts Receivable	P. 5
(S1) 9,800	

Sales	P. 11
	(S1) 9,800

Postings from the cash receipts journal to the general ledger accounts.

Cash Receipts Journal — Page 1

Date		Account Credited	R	General		Accounts Receivable		Sales Dis't		Cash	
Jan.	9	W. Green				1,200	00	24	00	1,176	00
	11	Rent Revenue	38	100	00					100	00
	12	T. Brown				1,600	00	32	00	1,568	00
	19	W. Sloan				900	00	18	00	882	00
	28	S. White				1,800	00			1,800	00
				100	00	5,500	00	74	00	5,526	00
				√		(5)		(35)		(1)	

Rent Revenue	P. 38
	(R1) 100

Accounts Receivable	P. 5
(S1) 9,800	(R1) 5,500

Sales Discounts	P. 36
(R1) 74	

Cash	P. 1
(R1) 5,526	

Postings from the cash receipts book to the customers' accounts in the accounts receivable ledger.

Cash Receipts Journal

Date		Account Credited	R	General		Accounts Receivable	
Jan.	9	W. Green	R8			1,200	00
	11	Rent Revenue	38	100	00		
	12	T. Brown	R3			1,600	00
	19	W. Sloan	R15			900	00
	28	S. White	R19			1,800	00
				100	00	5,500	00
				√		(5)	

W. Green	Page 8
(S1) 1,200	(R1) 1,200

T. Brown	Page 3
(S1) 1,600	(R1) 1,600

W. Sloan	Page 15
(S1) 1,200	(R1) 900

S. White	Page 19
(S1) 2,500	(R1) 1,800

Recording Purchases under the Control Account Method. Purchases are often made from a sufficient number of creditors to make advantageous the use of an accounts payable ledger, in which case a control account, Accounts Payable, would be opened in the general ledger.

Each purchase invoice would be entered in the purchase journal exactly as explained in Chapter IX. It is only the posting that is different. Again totals are posted to the general ledger accounts, and the individual amounts are posted to the credit of the creditors' accounts in the accounts payable ledger.

To illustrate this procedure, the following transactions are entered in the purchase journal and are posted to the ledger accounts:

Jan. 8 Purchase invoice No. 1 from General Electric Company, $255.80, terms 2/10, n/30.
15 Purchase invoice No. 2 from Black and Decker, $149.50, terms 2/10, n/30.
23 Purchase invoice No. 3 from Eastern Specialty, $219.60, terms 2/10, n/30.
26 Purchase invoice No. 4 from Hale Bros., $84.70, terms 2/10, n/30.
28 Purchase invoice No. 5 from Knight and Knight, $210.20, terms 2/10, n/30.

The entries would be made in the purchase journal, somewhat as follows:

Purchase Journal

Date		Invoice Number	Account Credited	Explanation	R	Amount	
Jan.	8	1	General Electric	Inv. 589, Jan. 2	16	255	80
	15	2	Black & Decker	Inv. 387, Jan. 4	8	149	50
	23	3	Eastern Specialty	Inv. 38, Jan. 16	14	219	60
	26	4	Hale Bros.	Inv. 58, Jan. 20	18	84	70
	28	5	Knight & Knight	Inv. 65, Jan. 18	25	210	20
			Purchases, Dr.	Accounts Payable, Cr.	46/33	919	80

The date of each invoice, the creditor's name, the number the purchaser has stamped on the invoice, the amount, and any other pertinent information from the invoice are entered in this purchase journal. Sometimes a column is used for the number the creditor placed upon the invoice.

Each amount is posted to the credit of a trade-creditor's account in the accounts payable ledger.

Periodically the Amount column is totaled, *the total being posted to the debit of the Purchases account and to the credit of the Accounts Payable account*, both of which are in the general ledger. The page numbers of these accounts are placed in the Reference column.

The postings that would be made from the purchase journal illustrated are now shown. The total of $919.80 is debited to Purchases and credited to Accounts Payable as follows:

General Ledger

Purchases — Page 46

1942											
Jan.	31		Pl	919	80						

Accounts Payable — Page 33

						1942					
						Jan.	1	Balance	√	876	05
							31		Pl	919	80

Each amount would be entered as a credit to the respective trade-creditor's account in the accounts payable ledger, as follows:

Accounts Payable Ledger

Black & Decker — Page 8

						1942					
						Jan.	1	Balance	√	109	25
							15		Pl	149	50

Eastern Specialty — Page 14

						1942					
						Jan.	1	Balance	√	325	50
							23		Pl	219	60

General Electric — Page 16

						1942					
						Jan.	1	Balance	√	165	25
							8		Pl	255	80

Hale Bros. — Page 18

						1942					
						Jan.	1	Balance	√	112	25
							26		Pl	84	70

Knight & Knight — Page 25

						1942					
						Jan.	1	Balance	√	163	80
							28		Pl	210	20

The Need for a Columnar Cash Disbursements Journal. Special columns are needed in the cash disbursements journal to overcome the same type

of difficulties that arise in making entries in the cash receipts journal. When the trade-creditors' accounts are segregated in a special ledger, a special Accounts Payable column is needed in the cash disbursements journal. Each debit to a trade-creditor's account is entered in this column and posted to a trade-creditor's account in the accounts payable ledger, and the total of the Accounts Payable column is debited to the control account, Accounts Payable.

The Columnar Cash Disbursements Journal. A four-column cash disbursements journal is illustrated and explained in this section.

The following transactions are entered in this journal and are posted to the general ledger accounts and to the trade-creditors' accounts used on pages 195–197.

Jan.	3	Paid Hale Bros. $112.25, invoice No. 84.
	4	Paid Black and Decker $109.25, invoice No. 86.
	5	Paid Eastern Specialty $325.50, balance of Dec. 31.
	7	Paid rent for January, $300.
	8	Paid General Electric $165.25, invoice No. 83.
	17	Paid General Electric $250.68, invoice No. 1 less $5.12 cash discount.
	24	Paid Black and Decker $146.51, invoice No. 2 less $2.99 cash discount.
	31	Paid an office salary of $325 and sales salaries of $250 and $200.

Cash Disbursements Journal

Date		Account Debited	Explanation	R	General		Accounts Payable		Purchase Discounts		Cash	
Jan.	3	Hale Bros.	Inv. No. 84	18			112	25			112	25
	4	Black & Decker	Inv. No. 86	8			109	25			109	25
	5	Eastern Specialty	Dec. 31 bal.	14			325	50			325	50
	7	Rent Expense	Jan. rent	48	300	00					300	00
	8	General Electric	Inv. No. 83	16			165	25			165	25
	17	General Electric	Inv. No. 1	16			255	80	5	12	250	68
	24	Black & Decker	Inv. No. 2	8			149	50	2	99	146	51
	31	Office Salaries	J. B. Clark	50	325	00					325	00
	31	Sales Salaries	A. K. Cline	45	250	00					250	00
	31	Sales Salaries	J. B. Hines	45	200	00					200	00
					1,075	00	1,117	55	8	11	2,184	44
					√		(33)		(54)		(1)	

This cash disbursements journal has the following columns:

General, Dr.
Accounts Payable, Dr.
Purchase Discounts, Cr.
Cash, Cr.

The first entry, made to record the payment of $112.25 to Hale Bros. in payment of invoice No. 84, is a debit of $112.25 to Hale Bros. and a credit of $112.25 to Cash. The debit is entered in the Accounts Payable column as a debit to Hale Bros. The cash is entered in the Cash column, which is

a credit column. The next two entries are of the same type. The fourth entry is made to record the debit of $300 to Rent Expense and the credit of $300 to Cash for the payment of the January rent. The debit of $300 is entered in the General column since this journal contains no special column for rent expense.

The entry on January 17 is made to record the payment of invoice No. 1 from General Electric Company for $255.80 less discount of $5.12, making a payment of $250.68. The debit to General Electric is for $255.80 and is made in the Accounts Payable column. The credit of $5.12 to Purchase Discounts is made in the Purchase Discounts column, and the credit of $250.68 is made in the Cash column.

The remaining entries need no explanation.

This cash disbursements book is ruled in a slightly different way from the cash receipts book on page 188 in order to acquaint the reader with different methods of ruling these books.

The total of the General column is not posted, but each amount in this column is posted as a debit to the ledger account named in the Account Debited column. A check mark is placed below the total of the General column to indicate that this amount is not to be posted. *The total of the Accounts Payable column is posted to the debit of the control account, Accounts Payable.* The page number of this ledger account is placed under the total of the Accounts Payable column in the cash disbursements journal. This page number is circled or enclosed in parentheses to identify it as a page number. The number of the page of the cash disbursements journal is placed in the Reference column of the ledger account. This number may be preceded by a letter such as "D" to identify the book from which the posting was made. *The total of the Purchase Discounts column is posted as a credit to the account Purchase Discounts, and the total of the Cash column is posted as a credit to Cash.*

Each amount in the Accounts Payable column is posted to the debit of a trade-creditor's account in the accounts payable ledger. The page number of the ledger account is placed in the Reference column of the cash disbursements journal, and the page number of the cash disbursements journal is placed in the ledger account.

The amounts in the preceding cash disbursements journal are posted to the general ledger accounts as follows:

General Ledger Accounts

Cash **Page 1**

1942 Jan.	1	Balance	√	xxxx	xx	*1942* Jan.	31		D1	2,184	44

Accounts Payable — Page 33

1942 Jan.	31		D1	1,117	55	*1942* Jan.	1	Balance	√	876	05
							31	(678.30)	P1	919	80

Sales Salaries — Page 45

1942 Jan.	31		D1	450	00						
	31		D1	200	00						

Rent Expense — Page 48

1942 Jan.	31		D1	300	00						

Office Salaries — Page 50

1942 Jan.	31		D1	325	00						

Purchase Discounts — Page 62

						1942 Jan.	31			8	11

The amounts in the Accounts Payable column are posted to accounts in the accounts payable ledger.

Accounts Payable Ledger Accounts

Black and Decker — Page 8

1942 Jan.	4		D1	109	25	*1942* Jan.	1	Balance	√	109	25
	24		D1	149	50		15		P1	149	50

Eastern Specialty — Page 14

1942 Jan.	5		D1	325	50	*1942* Jan.	1	Balance	√	325	50
							23		P1	219	60

General Electric — Page 16

1942 Jan.	8		D1	165	25	*1942* Jan.	1	Balance	√	165	25
	17		D1	255	80		8		P1	255	80

Hale Bros. Page 18

1942 Jan.	3		D1	112	25	*1942* Jan.	1	Balance	√	112	25
							26		P1	84	70

Knight & Knight Page 25

						1942 Jan.	1	Balance	√	163	80
							28		P1	210	20

A list of the balances of the accounts in the accounts payable ledger follows:

Eastern Specialty	$219.60
Hale Bros.	84.70
Knight & Knight	374.00
	$678.30

This total agrees with the balance of the control account, Accounts Payable, which is a credit balance of $678.30.

Direct Posting of Sales. In the explanations and illustrations of the sales journal given in this and the preceding chapters, data from each sales invoice were entered in the sales journal and posted to the ledger. This method has enabled us to explain, with the minimum amount of complications, the fundamentals involved. And the method is not without value, for it can be used by wholesalers and manufacturers who make comparatively few sales and those in large amounts. On the other hand, it would obviously be impracticable for a large retail store to enter each sales ticket in a sales journal.

Such firms enter in the sales journal only totals of the sales for a particular period such as one day, somewhat as follows:

Sales Journal

Date		Sales Ticket Nos.	Amount
June	1	1–325	4,386.90
	2	326–580	3,984.10
	3	581–720	3,619.70
	4	721–980	4,133.20
	30	5,116–5,280	3,866.15
		Accounts Receivable, Dr. Sales, Cr.	98,323.40

Since each amount is not posted, the Reference column is usually omitted. The total of the sales for the month is debited to Accounts Receivable and credited to Sales. The names of these accounts or check marks are placed opposite this total to show that it is posted.

The total of the sales tickets for each particular period, such as one day, is entered in the sales journal or on a summary sheet. If the total of the sales tickets for each day is entered in the sales journal, the tickets for each day are given to the accounts receivable ledger bookkeeper, who posts the data direct from each sales ticket to the respective customer's account. If this is done in longhand the page number, account number, or simply a check mark is placed on each sales ticket to show that it has been posted. An adding machine total is then taken of the day's sales tickets and is compared with the amount in the sales journal. These two amounts should agree. If they do not, the work is immediately checked to find the error.

If the volume of sales is large, bookkeeping machines will be used for the postings to the accounts receivable ledger. Bookkeeping machines are specialized types of adding machines, or are basically typewriters with adding and subtracting mechanisms. The ledger sheets, which are in loose-leaf form, are placed in the machine, and entries are made very much as they would be on an adding machine or a typewriter. By the use of these machines the balance of each account may be automatically obtained and the total of all the postings accumulated. Usually a ledger form called the *progressive* form, illustrated below, is used:

PROGRESSSIVE FORM LEDGER SHEET

Wm. Hart 116 Ash St., Trenton

Date	Reference	Debit	Credit	Balance
Feb. 6	1,536	35.20		35.20
15	3,610	15.40		50.60
25	R986		30.00	20.60

The sales ticket number or the number of the receipt made out for cash will usually be entered in the space headed Reference. When the entry was made on February 15 to Wm. Hart the balance of $35.20 would be recorded in the machine, the debit of $15.40 would be entered in the account, and the machine would show the balance of $50.60. When this balance is entered in the account it is automatically cleared from the machine. In addition the machine would accumulate the total of all the tickets posted. This total would be checked with the entry in the sales journal. Ordinarily customers' accounts are filed alphabetically, as they may not be numbered.

Direct Posting of Cash Receipts. A business enterprise may receive so many checks from customers and make so many cash sales that it would be impracticable to record each amount received. This is the situation in most medium and large sized stores, with the result that such enterprises

usually enter in the cash receipts book each day the total collected from customers, and the total of the cash sales for the day.

Whenever cash is received from a customer, either a receipt is written out or the amount and the customer's name are listed on a special form for that purpose. The total of the cash is entered in the cash receipts book in the Accounts Receivable and Cash columns, and the postings are made from the totals of these columns. The entries are made to the customers' accounts from the receipts or from the special form, and the total for each day is immediately compared with the entry in the cash receipts journal.

The total of the cash sales for a day is entered in the cash receipts book as a debit to Cash, and in a special column headed Sales, or Cash Sales. This amount should agree with the cash register records or with the cash sales tickets for the day.

Informal Subsidiary Ledgers. Some companies with an exceptionally large volume of sales transactions do not post each entry to the customer's account. Instead of actually opening customers' accounts to which entries are made, they file each invoice in a folder with the customer's name on it, or behind a card bearing his name. A collection of such folders containing invoices replaces the formal accounts receivable ledger. The group of each customer's invoices makes up his account, and the total file of folders is called the customers' file or the accounts receivable ledger. Some of the major oil companies, which sell a tremendous amount of gasoline on credit, use this method. Totals are posted to the general ledger as described in the section on Direct Posting of Sales.

Two copies of the invoice are placed in the file. At the end of the month one copy of each invoice is removed, the total of the invoices thus removed from each customer's account is obtained, and a monthly statement is made out for this amount and mailed to the customer. The copies of the invoices are attached to the statements. When the customer pays the amount he owes, the other copy of each invoice paid is removed from his file. If the customer makes only a partial payment, a credit memo for that amount is placed in the file with the invoices bearing his name.

The advantage of this method is in the immense saving in the labor of recording. No entries are made to customers' accounts. One of its disadvantages compared with the formal subsidiary ledger is that it is more difficult to obtain the exact status of a customer's account at any particular time. With the formal subsidiary ledger the debits and credits are in columns, and two additions and one subtraction will give the balance of the account. If bookkeeping machines have been used, the balance is always shown. With the informal subsidiary ledger the usual procedure to obtain the balance of an account is to take an adding machine total of the invoices of the customer, and from this total the total of the credit

memos, if any, is subtracted. This disadvantage is not ordinarily a serious one, for comparatively few customers want the balance of their accounts during a month. Another more serious disadvantage is the lack of a satisfactory method of verifying the work. When the formal subsidiary ledger is used with bookkeeping machines, it is very easy to check the total of the balances of the accounts in the subsidiary ledger with the balances of the Accounts Receivable account. It is also easy to check the total of the debits posted to the customers' accounts with the debit or debit totals posted to the control account, and to check the total of the credits posted to the customers' accounts with the total credit or credits posted to the control account. This verification of the work may be made daily. With the informal customers' ledger a verification of the work can be made, but it is more difficult and much less thorough. The clerk who enters the invoices in the file may obtain the total on an adding machine slip and check this total with the amount entered on the general books. But an immense amount of work would be necessary to check the total of the balances of the accounts in the subsidiary ledger with the balance of the control account. That the method is more inaccurate is evidenced by the fact that many companies using it do not expect the total of the customers' accounts to balance exactly with the control account, a reasonable discrepancy being permitted.

Such informal records are not to be recommended unless the saving in labor is substantial, as they normally result in inaccuracy.

Symbols for Accounts. Large business enterprises usually use a standard list of accounts, each account being given some identifying symbol such as alphabetic letters or numbers. A manual is often prepared to which reference may be made to determine what transactions are recorded in each account.

If letters are used in addition to the account titles to identify accounts, each major classification of accounts would be given a different letter. All asset accounts might be identified by the letter A, liabilities by B, and proprietorship accounts by C. Current assets might be given the symbol AA, and a particular current asset like cash, AAA. Notes receivable might be given the symbol AAB. Buildings might be given the symbol ACA, and delivery equipment the symbol ACD.

Numbers are used more frequently than letters for account identification. Under the system of numbering accounts illustrated on page 201 the first digit identifies the account as an asset, a liability, a permanent proprietorship account, a revenue account, or an expense account. The second digit indicates the subclass; additional digits further identify the account. For example, the digits 1151 identify the account as an asset, a current asset, an accrual, and the particular type of accrual.

1. Assets
    11 Current assets
        111 Cash
        112 Accounts receivable
        113 Notes receivable
        114 Inventory
        115 Accrued revenue
            1151 Accrued interest revenue
            1152 Accrued rent revenue
    12 Prepaid expenses
        121 Prepaid insurance
        122 Sales supplies
        123 Office supplies
    13 Fixed assets
        131 Land
        132 Buildings
            1321 Reserve for depreciation of buildings
        133 Delivery equipment
        134 Office equipment
            1341 Reserve for depreciation of office equipment
2. Liabilities
    21 Current liabilities
        212 Accounts payable
        213 Notes payable
        215 Accrued expenses
            2153 Accrued wages
            2154 Accrued taxes
    22 Fixed liabilities
        221 Bonds payable
3. Proprietorship
4. Revenues
    411 Sales of product A
    412 Sales of product B
    42 Rent revenue
5. Expenses
    51 Cost of goods sold
        513 Purchases
    52 Selling expenses
        521 Sales salaries
        522 Sales commissions
        523 Sales supplies used
    53 General expenses
        531 Office salaries
        533 Office supplies used

The preceding list of accounts is not complete; it is given for illustrative purposes only. The reader will observe that a combination of letters and numbers might be used to identify accounts.

Such methods of account identification not only emphasize the relationship between accounts, but reduce the amount of work required in the office. Instead of the writing out of account names, the accounts may be referred to by symbol.

Columnar General Journal. Special columns may be added to the general journal to obtain the total of the transactions of any particular type that occur in sufficient volume. In the illustration given below, the debit columns are placed to the left of the space for the name of the accounts, and the credit columns are placed to the right. This is a common practice. A Reference column may be provided on each side.[1]

Each amount in the General column on the debit side of the journal is posted to the respective ledger account. The total of the Accounts Payable column is posted as a debit to Accounts Payable; and the total of the Sales Returns and Allowances column is posted as a debit to Sales Returns and Allowances. Each amount in the Accounts Payable column is posted to the debit of the respective creditor's account in the accounts payable ledger.

Columnar General Journal

Sales Returns and Allowances	Accts. Payable	Gen.	R		R	Gen.	Accts. Receivable	Purchase Returns and Allowances
				Jan. 5				
15 00			√	A. Young	55		15 00	
				To record credit memo No. 1				
				Jan. 9				
	50 00		34	Western Supply	√			50 00
				To record credit received for inferior goods—invoice No. 156				
				Jan. 12				
		500 00	15	Notes Receivable	√			
			√	Ernest Witter	47		500 00	
				To record 90-day 4% note dated Jan. 11 from E. Witter				
				Jan. 31				
	1,000 00		24	National Electric Co.	√			
			√	Notes Payable	34	1,000 00		
				To record 60-day 6% note, dated Jan. 31 to National Electric Co.				
175 00	1,350 00	1,200 00				1,300 00	1,185 50	239 50
(55)	(32)	(√)				(√)	(8)	(57)

[1] For a slightly different form, see the illustration on page 176.

Each amount in the General column on the credit side of the journal is posted to the credit of the respective account in the ledger. The total of the Accounts Receivable column is posted as a credit to Accounts Receivable. The total of the Purchase Returns and Allowances column is posted as a credit to Purchase Returns and Allowances. Each amount in the Accounts Receivable column is posted as a credit to a customer's account in the accounts receivable ledger.

The general ledger page numbers are placed under the total of each special column, and are circled or placed in parentheses.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What is a subsidiary ledger? A control account?

2. On what basis are accounts segregated in a special ledger?

3. What are the advantages of having an account, Accounts Receivable, in the general ledger and the customers' accounts in a special ledger?

4. Explain clearly how you would post from the following sales journal to the general ledger accounts and to the customers' accounts in the accounts receivable ledger:

Sales Journal

Date		Invoice Number	Account Debited	R	Amount	
Jan.	6	113	Green & Long		600	50
	11	114	B. T. Brown & Co.		550	25
	21	115	A. S. White Co.		400	25
	24	116	Green & Long		500	00
	25	117	Munson Sales Co.		250	00
					2,301	00

5. Explain clearly how you would post from the following purchase journal to the general ledger accounts and to the creditors' accounts in the accounts payable ledger:

Purchase Journal

Date		Invoice Number	Account Credited	Terms	R	Amount	
April	8	23	Briton Tool Co.	2/10, E.O.M.		2,342	10
	14	24	Wiley Machinery Co.	1/10, n/30		1,895	40
	19	25	Briton Tool Co.	2/10, E.O.M.		1,943	20
	25	26	Brown Machinery Co.	2/10, n/30		2,121	10
	28	27	Sumner Products	1/10, n/30		2,840	50
						11,142	30

6. Why are one-column cash receipts books seldom adequate for recording purposes?

7. How would you record the receipt of \$58.80 in payment of an invoice for \$60 less 2 per cent discount when a one-column cash receipts books is used?

8. Design a four-column cash receipts book to overcome the difficulty of recording sales discounts.

9. Explain clearly what amounts would be posted from the following cash receipts journal to the general ledger accounts:

Date		Account Credited	Explanation	R	General		Accounts Receivable		Sales Discounts		Cash	
1942												
June	3	Rent Revenue	June rent		150	00					150	00
	5	Alex. Smith	On acct.				75	00			75	00
	7	J. B. Williams	Inv. No. 18, less 2%				50	00	1	00	49	00
	9	E. Ewing	Inv. No. 25, less 2%				40	00		80	39	20
	11	Interest Revenue	Int. to June 1 on XYZ bonds		10	00					10	00
					160	00	165	00	1	80	323	20

10. Explain clearly how you would post the amounts from the cash book in question 9 to the accounts in the accounts receivable ledger.

11. Why are special columns used in books of original entry?

12. What is meant by "cross-footing" the totals of the cash receipts books? Illustrate from the cash receipts book in question 9. What is the purpose of cross-footing totals?

13. A cash disbursements book has the following columns: General, Accounts Payable, Purchase Discounts, and Cash. Explain clearly what you would post from this book to the general ledger; to the accounts payable ledger.

14. Is there any way of verifying the total of all the balances of the accounts in the accounts receivable ledger?

15. Does this verification prove the accuracy of the work?

16. What is meant by direct posting?

17. The Eton Manufacturing Company averages about 1,000 sales invoices each month. Outline a method for recording sales and posting to the customers' accounts in the sales ledger.

18. The Fashion Wear Store, which sells high-quality women's clothing, averages 20 sales each day. How would you record the sales of this company, which has 1,000 customers' accounts in its sales ledger?

19. What is an informal accounts receivable ledger?

LABORATORY PROBLEMS

1. The totals of the special columns in the books of original entry on July 31 and other information for the postings to the general ledger accounts are given below:

Sales journal: Total, $15,596.10

Purchase journal: Total, $12,342.75

Cash receipts journal: General, $350; Accounts Receivable, $4,568.90; Sales Discounts, $975.60; Cash, $3,943.30. Only one amount was entered in the General column; this was a credit of $350 made on July 16 to Notes Payable.

Cash disbursements journal: General, $300; Accounts Payable, $7,458.25; Cash, $7,758.25. There were two entries in the General column, a payment on July 20 of $150 on a note payable, and a payment of $150 on July 28 for sales salaries.

(a) Open T accounts for the general ledger accounts and make the postings as of July 31, 1942.

(b) What other postings would be made?

2. The following were the sales of the Mander Drill Co. for October 1944:

Oct. 1 Sale to the Gold Creek Mining Company, invoice No. 55, $843.60, terms 2/10, n/30.
5 Sale to Sullivan Silver Producers, invoice No. 56, $438.90, terms 1/10, n/30.
10 Sales to United Mines, invoice No. 57, $2,695.80, terms 2/10, n/30.
15 Sale to Alaska Exploration Co., invoice No. 58, $3,295.80, terms n/60.
19 Sale to C. & E. Mines, invoice No. 59, $1,295.80, terms 2/10, n/30.
23 Sale to Gold Creek Mining Co., invoice No. 60, $965.80, terms 2/10, n/30.
27 Sale to Sullivan Silver Producers, invoice No. 61, $238.40, terms 1/10, n/30.
30 Sale to Powder Lake Lead Company, invoice No. 62; $1,196.70, terms 2/10, n/30.

(a) Enter the above data in a sales journal.

(b) The following were the cash receipts of the Mander Drill Company for October 1944.

Oct. 3 Received a check from Island Mines in payment of invoice No. 54 for $805.10, less 2 per cent discount.
5 Borrowed $500 from the Manufacturers National Bank for which a 90-day, 4 per cent note payable was issued.
10 Received check from Gold Creek Mining Co., in payment of invoice No. 55.
15 Received check from Sullivan Silver Producers in payment of invoice No. 56.
17 A cash sale was made for $98.70.
19 Received a dividend of $200 on 500 shares of Bonton Mines stock.
24 Received a check from United Mines in payment of invoice No. 57.
26 A cash sale was made for $74.20.
29 Received a check from the C. & E. Mines in payment of invoice No. 59.

Enter these transactions in a cash receipts journal with columns headed General, Accounts Receivable, Sales Discounts, and Cash.

(c) Open T accounts and post all the transactions entered in the sales journal and cash receipts book.

3. Make up a sales journal, and a cash receipts journal with columns headed General, Accounts Receivable, and Cash.

(a) Enter the following transactions in these books:

Nov. 4 Sales on credit to A. Hansen $175, to W. Burd $1,250.
6 Collected from A. Hansen, $60 on account.
10 Sales on credit, W. Black $85, W. Ernst $100, H. Miller $200, R. Hume $110.
12 Collected $1,250 from W. Burd, and $100 from W. Ernst; both on account.
14 Collected $110 from R. Hume, and $35 from H. Miller; both amounts on account.
18 Sales on credit to A. Smith $75, to B. West $115, to F. Ames $65.
24 Collected $50 from W. Black, and $85 from A. Hansen.
26 Collected interest of $15.
27 Sale to H. Miller, $100 on which he paid $25 cash.
30 Sale on credit to R. Hume, $115.

(b) Open T accounts and post from the books of original entry to the general ledger accounts and the customers' accounts in the accounts receivable ledger.

4. Make up a sales journal, and a cash receipts journal with the following columns: General, Accounts Receivable, Sales Discounts, and Cash. Discounts of 2 per cent are granted to all customers who pay within 10 days from date of the sale.

(a) Make entries in the books of original entry, and using T accounts make all

the postings to the general ledger accounts and to the customers' accounts which are in the accounts receivable ledger. All sales were made on credit. The following were the transactions for September:

Sept. 1 Sales: invoice No. 268 to A. B. Smith, $125.60.
2 Sales: invoice No. 269 to E. L. Rhodes, $245.70; invoice No. 270 to P. Terzick, $189.60.
4 Received check for $60 interest on Eastern Pacific Bonds owned.
5 Sales: invoice No. 271 to B. F. Miles, $215.20.
7 Received check from A. B. Smith in payment of invoice No. 268, dated September 1.
8 Sales: invoice No. 272 to G. E. Timms, $110.50; invoice No. 273 to V. V. Simms, $145.60.
9 Received a check from P. Terzick in payment of invoice No. 270, dated September 2.
11 Gave a note payable for $300 to National City Bank for $300 cash borrowed.
12 Sales: invoice No. 274 to S. B. Siles, $165.80. Received check from B. F. Miles in payment of invoice No. 271, dated September 5.
13 Sales: invoice No. 275 to A. B. Smith, $242.80.
15 Sales: invoice No. 276 to A. Combs, $156.75.
16 Received check from G. E. Timms in payment of invoice No. 272, dated September 8.
18 Received check from E. L. Rhodes in payment of invoice No. 269, dated September 2.
19 Sales: invoice No. 277 to B. F. Miles, $173.40; invoice No. 278 to E. L. Hopper, $216.50.
20 Received check from S. B. Siles in payment of invoice No. 274, dated September 12.
21 Sales: invoice No. 279 to I. B. Prince, $280.50.
22 Sales: invoice No. 280 to A. B. Smith, $196.10.
23 Received check from A. B. Smith in payment of invoice No. 275, dated September 13.
25 Received check from V. V. Simms in payment of invoice No. 273, dated September 8.
27 Received checks from A. Combs in payment of invoice No. 276, dated September 15; and from E. L. Hopper in payment of invoice No. 278, dated September 19.
29 Received check from I. B. Prince in payment of invoice No. 279, dated September 21.
30 Sales: invoice No. 281 to S. B. Siles, $206.70.

(b) Make up a schedule of the accounts in the accounts receivable ledger and compare the total of these accounts with the balance of the Accounts Receivable control account.

5. Make up a purchase journal, and a cash disbursements book with the following columns: General, Accounts Payable, Purchase Discounts, and Cash. The discount period will be determined from the date of the invoice.

(a) Make entries for the following transactions:

Jan. 2 Purchases: invoice No. 1 from A. L. Lang and Sons, $180, terms 2/10, n/30. Paid January rent of $100.
4 Purchases: invoice No. 2 from King Bros., $250, terms 1/10, n/30. Purchased insurance for one year from January 1, $72 cash.
5 Purchases: invoice No. 3 from Bush & Bush, $150, terms 1/10, n/30.
6 Purchases: invoice No. 4 from A. L. Lang and Sons, $100, terms 2/10, n/30. Purchased sales supplies for $50 cash.
7 Purchases: invoice No. 5 from Bedell Co., $150, terms 1½/10, n/30.
9 Paid invoice No. 1 to A. L. Lang and Sons.
12 Paid invoice No. 2 to King Bros. Purchases: invoice No. 6 from King Bros., $200, terms 1/10, n/30.
15 Paid sales salaries of $225. Purchases: invoice No. 7 from A. L. Lang and Sons, $190, terms 2/10, n/30.
17 Paid invoice No. 4 to A. L. Lang and Sons.
20 Paid invoice No. 3 to Bush & Bush.

21 Paid invoice No. 5 to Bedell Co.
25 Purchases: invoice No. 8 from Bush & Bush, $175, terms 2/10, n/30.
31 Paid sales salaries of $225, and an office salary of $175.

(b) Open T accounts and post the above transactions to these accounts.

6. Make up a purchase journal, and a cash disbursements book with columns headed General, Accounts Payable, Purchase Discounts, and Cash. Discounts are earned if payment is made within ten days from the date of the invoice.

(a) Enter the following transactions for August 1942:

Aug. 3 Purchase invoice No. 98, from Kingston Supply Co., $978.50, dated July 28, terms 3/10, n/30.
5 Purchase invoice No. 99, from Macon Wholesale, $1,586.75, dated July 29, terms 1/10, n/30.
7 Paid invoice No. 98, Kingston Supply Co.
9 Purchase invoice No. 100, from Garden Milk Co., $895.45, dated August 5, terms 1½/10, n/30.
12 Purchase invoice No. 101, Hanley Bros., $1,235.65, dated August 4, terms 1/10, n/30.
14 Paid invoice No. 100 Garden Milk Co. Paid Invoice No. 101 Hanley Bros.
15 Purchased office supplies $25.60 cash.
16 Paid invoice No. 99, Macon Wholesale.
17 Paid note payable of $500 to Wm. White.
19 Purchase invoice No. 102, Kingston Supply Co., $1,126.10 dated August 14, terms 3/10, n/30.
21 Purchased a display case for $125 cash.
23 Purchase invoice No. 103, Garden Milk Co., $1,065.70, dated August 17, terms 1½/10, n/30.
24 Paid invoice No. 102, Kingston Supply Co.
27 Paid invoice No. 103, Garden Milk Co.
31 Paid telephone bill $43.60, light $28.75.

(b) Open T accounts and post to these accounts.

7. Open a purchase journal; and a cash disbursements book with columns headed General, Accounts Payable, Purchase Discounts, and Cash. The discount period starts from the date of the invoice.

(a) Enter the following transactions in the books of original entry:

June 3 Purchase invoice No. 215, Caledonia Packing Co., $673.10, dated May 27, terms 2/10, n/30.
5 Purchase invoice No. 216, National Tobacco Co., $469.10, dated May 29, terms 1/10 n/30.
6 Paid invoice No. 215, Caledonia Packing Co.
7 Purchase invoice No. 217, Toledo Packing Co., $594.20, dated June 2, terms 3/10, n/30. Paid invoice No. 216, National Tobacco Co.
9 Purchase invoice No. 218, Southern Citrus Growers, $794.70, dated June 1, terms 2/10, n/30.
10 Bought an adding machine from Office Appliance Co. for $225 cash.
11 Purchase invoice No. 219, Oregon Butter Producers, $593.10 dated June 4, terms 1½/10, n/30.
12 Purchase invoice No. 220, Aracon Canneries, $976.33, dated June 6, terms 2/10, n/30. Paid invoice No. 217, Toledo Packing Co.
13 Paid invoice No. 219, Oregon Butter Producers.
14 Purchase invoice No. 221, Caledonia Packing Co., $736.80, dated June 9, terms 2/10, n/30.
16 Paid invoice No. 220, Aracon Canneries.

17 Purchase invoice No. 222, Southern Citrus Growers, dated June 12, $617.80, terms 2/10, n/30.
18 Paid invoice No. 218, Southern Citrus Growers.
19 Purchase invoice No. 223, Oregon Butter Producers, $638.70, dated June 15, terms 1½/10, n/30. Paid invoice No. 221, Caledonia Packing Co.
20 Paid National Bank $1,000 plus interest of $48 on note payable for $1,000.
21 Purchase invoice No. 224, Pure Foods, Inc., $325.80, dated June 17, terms 3/10, n/30. Paid invoice No. 222, Southern Citrus Growers.
24 Bought sales supplies $78.60 cash, from Zeller Paper Co. Purchase invoice No. 225, Aracon Canneries, $843.20, dated June 19, terms 2/10, n/30.
25 Paid for June advertising $115.10.
26 Purchase invoice No. 226, Manito Sales Co., $186.70, dated June 21, terms n/30.
27 Paid invoice No. 224, Pure Foods, Inc.
28 Purchase invoice No. 227, Merton Producers, $346.80, dated June 22, terms 1/10, n/30. Paid invoice No. 225, Aracon Canneries.

(b) Open T accounts and post to the accounts in the general and accounts payable ledgers.

CHAPTER XII. SUNDRY SALES AND PURCHASE TRANSACTIONS

Sales Returns and Allowances When Control Accounts Are Used. When goods that were sold on credit are returned by a customer, a credit memo is usually made out to the customer. These credit memos are the source of entries made in the general journal, in the sales journal in red, or in a special journal for sales returns and allowances. The different methods will now be discussed, each being numbered for identification.

1. If Mr. W. Burns, whose account is in the accounts receivable ledger, returned merchandise that was sold to him for $300, an entry may be made in the general journal to debit the Sales Returns and Allowances account and to credit the W. Burns account, as follows:

Jan.	12	Sales Returns and Allowances	42	300	00		
		W. Burns, Accounts Receivable	8/3			300	00
		To record credit memo No. 5					

In the general ledger a debit is made to the Sales Returns and Allowances account and a credit to Accounts Receivable, and in the accounts receivable ledger a credit is made to the W. Burns account. Since the credit has been posted twice, it is said to be *double-posted.* Two page numbers are entered in the journal Reference column opposite the credit, one the page number of the customer's account in the accounts receivable ledger, the other the page number of the Accounts Receivable account in the general ledger.

2. Sales returns and allowances may also be entered in the sales journal in red ink or in black ink "circled," and the total of the red ink entries posted to the debit of Sales Returns and Allowances and to the credit of Accounts Receivable. Each red ink amount is posted to the credit of the respective customer's account in the accounts receivable ledger.

3. If there are many transactions of this type, special columns for Sales Returns and Allowances and Accounts Receivable may be included in the general journal. The debit would be entered in the Sales Returns and Allowances column, and the credit in the Accounts Receivable column. Each amount in the Accounts Receivable column would be posted to the credit of the customer's account in the special ledger. The total of the

Sales Returns and Allowances column would be posted to the debit of the Sales Returns and Allowances account, and the total of the Accounts Receivable column would be posted to the credit of Accounts Receivable. In this way the necessity of double-posting each amount is avoided. The following is an illustration of a columnar general journal with such columns:

General Journal

	Sales Returns and Allowances		Sundry		Date		Account Name	R	Sundry		Accounts Receivable		
	300	00			June	12	W. Burns To record credit memo No. 5	8			300	00	
	1,462 (46)	30	6,280 √	00					1,720 √	10	2,380 (8)	60	

The credit memo to W. Burns for a sales return of $300 is entered in the Sales Returns and Allowances column, and the credit to W. Burns is entered in the Accounts Receivable column. This credit is posted to the W. Burns account in the accounts receivable ledger. The entries to the general ledger accounts are made when the totals of the special columns are posted.

4. If the volume of sales returns and allowance transactions is large, a special sales returns and allowances journal may be used for the recording of the credit memos. An illustration of such a journal follows:

Sales Returns and Allowances Journal

Date		Account Credited	Credit Memo No.	R	Amount	
Jan.	8	Arnold Wilson	1	16	25	00
	12	A. B. Smith	2	12	15	00
	15	B. Hansen	3	9	10	00
	18	A. Peterson	4	10	30	00
	23	Geo. Ham	5	8	12	00
	28	A. Jensen	6	6	8	00
	31	Sales Returns and Allowances, Dr.		42	100	00
		Accounts Receivable, Cr.		3		

The date, the account to be credited, the number of the credit memo, and the amount are entered in the sales returns and allowances journal from each credit memo.

The entries to the customers' accounts are ordinarily made direct from this journal, each amount being posted to the credit of a customer's account in the accounts receivable ledger. The page number of this account is entered in the Reference column. The total of the Amount column is debited to Sales Returns and Allowances and credited to Accounts Receivable.

In some unusual instances there may be so many transactions of this type that it may be desirable to record the sales returns separately from the sales allowances. This can be done by providing three columns in the sales returns and allowances journal, one column for accounts receivable, one for sales returns, and one for sales allowances; or by using two journals, one for sales returns and one for sales allowances.

Purchase Returns and Allowances When Control Accounts Are Used. 1. The methods of recording purchase returns and allowances also vary with the volume of these transactions. If the transactions are few in number, a general journal entry may be made for each transaction. If goods purchased for $149.50 from Black & Wilson, whose account is in the accounts payable ledger, were returned, the following journal entry may be made:

Jan.	16	Black & Wilson, Accounts Payable	6/6	149	50		
		Purchase Returns and Allowances	56			149	50
		To debit Black & Wilson with the cost of merchandise returned					

The debit is posted twice, once to the Black & Wilson account in the accounts payable ledger and once to the Accounts Payable account in the general ledger. The credit is posted to the Purchase Returns and Allowances account in the general ledger.

2. Another method that may be used when there are few purchase returns and allowances is to enter them in the purchase journal in red ink or in black ink "circled." The total of the red figures would be posted to the debit of Accounts Payable and to the credit of Purchase Returns and Allowances. Each amount in red would be posted to the debit of a trade-creditor's account.

3. When there are a great number of such transactions, a special debit column headed Accounts Payable and a special credit column headed Purchase Returns and Allowances may be added to the general journal. The debit to the trade-creditor's account would be entered in the Accounts Payable column, and the credit would be entered in the Purchase Returns and Allowances column. The debit would be posted to the trade-creditor's account in the accounts payable ledger, and the page number of this

account would be entered in the Reference column. The total of the Accounts Payable column would be posted as a debit to the Accounts Payable control account, and the total of the Purchase Returns and Allowances column would be posted as a credit to Purchase Returns and Allowances.

General Journal

Accounts Payable		Sales Returns and Allowances		Sundry		Date		Account Name	R	Sundry		Accounts Receivable		Purchase Returns and Allowances	
		300	00			Jan.	12	W. Burns	8			300	00		
								To record credit memo No. 5							
149	50						16	Black & Wilson	16					149	50
1,944	50	1,462	30	6,280	00					1,720	10	2,380	60	1,183	10
(20)		(46)		√						√		(8)		(52)	

The second entry shown in the section of a page of the general journal illustrates an entry made to record a purchase return of $149.50 to Black & Wilson. The debit is placed in the Accounts Payable column and is posted to the debit of the trade-creditor's account in the accounts payable ledger. The credit is entered in the Purchase Returns and Allowances column. The debit to the general ledger account Accounts Payable and the credit to Purchase Returns and Allowances are made when the totals of the Accounts Payable and Purchase Returns and Allowances columns are posted.

4. The volume of the purchase returns and allowances is seldom sufficiently large to justify the use of a special journal but if it is, the journal would be somewhat like the following:

Purchase Returns and Allowances Journal

Date		Account Debited	Explanation	R	Amount	
1942						
May	8	Norton Mfg. Co.	Credit Memo 88	22	50	00
	15	White Bros.	Letter May 14	54	25	00
	23	Wilson, Harper, Co.	Credit Memo 15	58	40	00
	28	Brown and Sloan	Credit Memo 95	8	70	00
	29	Harley Bros.	Credit Memo 42	12	50	00
		Accounts Payable, Dr.		15	235	00
		Purchase Returns and Allowances, Cr.		36		

Each debit to a trade-creditor for goods returned is entered in this journal. Under the heading Account Debited is placed the name of the trade-creditor's account which is to be debited. In the space for the explanation, reference is made to a credit memo received from the creditor, to a letter, or the like. The Reference and Amount columns need no explanation.

The entries are posted to the debit of each of the trade-creditor's accounts at frequent intervals, usually daily.

Periodically, the total of the Amount column is posted to the general ledger as a debit to the Accounts Payable control account and as a credit to the Purchase Returns and Allowances account.

The date on which the entry is made in this journal varies with circumstances. In most instances arrangements will have been made with the creditor before the entry is made. This is always true of allowances. In some instances, however, goods are returned before permission has been received from the trade-creditor. If the business relations with the trade-creditor are such that it is known that the goods will be accepted and the credit granted, the entry may be made at any time. However, if there is any doubt about the credit being granted, the entry should not be made until notice has been received from the trade-creditor.

Notes Received in Exchange for Goods When Control Accounts Are Used. A note receivable may be accepted in exchange for merchandise. If so, the transaction may be entered in the general journal.

A sale for $100 to Howard Hamson for which a note receivable was accepted is recorded by a debit to Notes Receivable and a credit to Sales, as follows:

General Journal

Feb.	16	Notes Receivable	16	100	00		
		Sales	48			100	00
		To record 60-day 5% note dated Feb. 16, received from H. Hamson; sales invoice No. 95					

This entry is posted to the debit of the Notes Receivable account and to the credit of the Sales account.

Such transactions may better be recorded by first entering the sale in the sales journal as a sale on credit, and then by a second entry in the general journal to debit Notes Receivable and to credit the customer. Under this method, the sale to Mr. Hamson when posted from the sales journal would result in debits to the H. Hamson account and to Accounts Receivable, and in a credit to Sales. In journal form the entry would be:

Feb.	16	H. Hamson, Accounts Receivable	9/5	100	00		
		Sales	48			100	00

A journal entry is then made to debit Notes Receivable and credit H. Hamson, as follows:

General Journal

Feb.	16	Notes Receivable	16	100	00		
		H. Hamson, Accounts Receivable	9/5			100	00
		To record 60-day, 5% note from H. Hamson, dated Feb. 16					

The credit is double-posted, that is, posted to the credit of H. Hamson and to the credit of Accounts Receivable. The advantages of this method are that the sale is entered in the sales journal with the other sales and that entries are made in the customer's account for both the sale and the receipt of the note. Thus the sales journal provides a record of all sales, and the customer's account provides a complete record of all the transactions with him.

If many notes are received when sales are made, a special journal may be used for notes receivable transactions; however, such a journal will not be needed in the ordinary merchandising or manufacturing enterprise.

A Note Payable Issued in Exchange for Goods When Control Accounts Are Used. When a note payable is given in exchange for goods, the transaction may be recorded in the general journal. If a note payable for $400 is given to Wm. Deets & Co. for merchandise purchased, a journal entry may be made to debit Purchases and credit Notes Payable, as follows:

Aug.	6	Purchases	43	400	00		
		Notes Payable	41			400	00
		To record 60-day, 6% note payable to Wm. Deets & Co.					

This entry is posted as a debit to the Purchases account and as a credit to the Notes Payable account, both of these accounts being in the general ledger.

Under some circumstances it is preferable to consider the purchase as a purchase on credit and enter it in the purchase journal, with the result that Purchases is debited and Accounts Payable and the trade-creditor are credited. For the purchase from Wm. Deets & Co. the entry in the purchase journal would result in a debit to Purchases and credits to the Wm. Deets account and Accounts Payable. A journal entry would then be made to debit Wm. Deets & Co. and to credit Notes Payable, as follows:

Aug.	6	Wm. Deets & Co., Accounts Payable	8/38	400	00		
		Notes Payable	41			400	00
		To record 60-day, 6% note payable, issued to Wm. Deets & Co.					

After these entries have been properly posted, the Wm. Deets & Co. account in the accounts payable ledger will contain the record of the purchase and the issue of the note. The advantages of this method are that the purchase is entered in the purchase journal with the other purchases, and the trade-creditor's account provides a complete record of the transaction.

Mixed Transactions. On rare occasions a sale or purchase is made partly for cash and partly on credit, or partly for cash, partly for a note receivable, and the balance on credit. To illustrate: A sale for $500 was made on June 6 to Elmer White, who paid $100 cash, gave a 30-day note for $150, and agreed to pay the balance in 60 days. One of the best methods

Elmer White

500	100
	150

of recording this transaction is that given above. The $500 is entered in the sales journal as a sale on credit to Elmer White. This results in the $500 being posted to the debit of the Elmer White account in the accounts receivable ledger as illustrated. When the total of the Amount column of the sales ledger is posted, a debit is made to Accounts Receivable and a credit to Sales.

The $100 cash received is entered in the cash receipts journal in the Accounts Receivable and Cash columns. The $100 is posted to the credit of the Elmer White account, and when the totals are posted the debit to Cash and the credit to Accounts Receivable are obtained.

Finally, an entry is made in the general journal to debit Notes Receivable $150 and credit Elmer White $150. This entry results in a debit to Notes Receivable and credits to Accounts Receivable and to the Elmer White account.

The Elmer White account now shows the total amount of the sale, the cash he paid, and the note receivable, and the balance of the account is the amount he owes.

Another method may be used to record such transactions. The entire entry may be made in the general journal and a check mark placed in the Reference column opposite the debit to Cash. The amount of the cash received is also entered in the cash receipts journal and a check mark

placed in the Reference column. The following is the general journal entry to record the sale to Elmer White:

General Journal Page 59

June	6	Cash	√	100	00		
		Notes Receivable		150	00		
		Elmer White, Accounts Receivable		250	00		
		Sales				500	00
		To record sale to Elmer White					

The cash of $100 is also entered in the General column, not in the Accounts Receivable column, of the cash receipts journal. A check mark is placed in the Reference column to show that the credit should not be posted, as illustrated below:

Cash Receipts

Date		Account Credited	Explanation	R	General	Accounts Receivable		Cash
June	6	Elmer White	J. E. page 59	√	100			100

A purchase made partly for cash and partly on credit may be recorded in much the same way as the mixed sale. The entire amount of the purchase may be entered in the purchase journal as a purchase on credit, with any cash payment entered in the Accounts Payable and Cash columns of the cash disbursements book, and a note payable entered in the general journal as a debit to the trade-creditor and a credit to Notes Payable. Or the entry may be made in the general journal and in the cash disbursements book with check marks placed opposite the entries to Cash in the Reference columns of each book.

Cash Sales. The methods followed in recording cash sales vary with the volume of transactions and with the extent to which the division of labor is carried within the accounting department. The following are common methods:

1. The cash sales are entered in the cash receipts journal in the General and Cash columns.
2. The cash sales may be entered in a special column headed Cash Sales, or Sales, in the cash receipts book.
3. The cash sales are entered in the sales journal as credit sales, and the cash is entered in the Accounts Receivable and Cash columns of the cash receipts book.
4. The cash sales are entered in the sales journal, but the individual amounts are not posted to each customer's account.

1. The cash sales of a business which makes few such sales may be

entered in the General column of the cash receipts journal, and each amount posted to the credit of the Sales account.

2. If the volume of cash sales is fairly large, a special Sales column may be included for them in the cash receipts journal. An illustration of such a cash receipts journal with a column for cash sales (headed Sales) in which the credits are entered is given below. The cash sales are entered in the Cash column and in the Sales column, and a check mark is placed in the Reference column to show that each amount is not to be posted. The Cash column is a debit column, and the Sales column is a credit column. When the totals of these columns are posted, the general ledger account Cash is debited with the amount of the cash sales and the Sales account is credited that amount.

Cash Receipts Journal

Date		Account Credited	Explanation	R	General	Accounts Receivable	Sales	Sales Discounts	Cash
May	2	Cash Sales	Inv. 102–111	√			150 60		150 60
	4	Interest Revenue	Ironex Bonds	86	85 00				85 00
	7	B. J. James	Inv. 78	24		165 80		1 66	164 14
	11	A. S. Miles	Inv. 86	30		115 10		1 15	113 95
	13	Cash Sales	Inv. 112–122	√			73 40		73 40
	16	E. L. Jenks	Inv. 92	27		143 50		1 44	142 06
	18	Cash Sales	Inv. 123–131	√			94 30		94 30
	21	W. K. Hurley	Inv. 87	19		77 40		77	76 63
	22	Cash Sales	Inv. 132–140	√			84 15		84 15
	25	A. A. Earl	Inv. 82	15		153 60		1 54	152 06
	28	Cash Sales	Inv. 141–149	√			44 50		44 50
					85 00	655 40	446 95	6 56	1,180 79
					√	(12)	(53)	(82)	(1)

3. Wholesale and manufacturing enterprises often enter cash sales in the sales journal as sales on credit. Then when the cash is received it is entered in the Accounts Receivable column of the cash receipts journal as a credit to the customer. The entry in the sales journal results in a debit to the customer and to Accounts Receivable, and a credit to Sales. The entry in the cash receipts journal is a debit to Cash and credits to Accounts Receivable and to the customer; thus, the debit to Accounts Receivable is offset by a credit of a like amount. The net result is a debit to Cash and a credit to Sales. Each customer's account then provides a complete record of all the sales made to him.

4. This method is exactly like method 3, except that no postings are made to the customers' accounts. The cash sales for each day are entered in the sales journal, and a check mark is placed in the Reference column to show that the individual amount is not to be posted. When the total is

posted the debit is to Accounts Receivable and the credit to Sales, and the cash sales are included in these amounts. The cash is entered in the Accounts Receivable and Cash columns of the cash receipts book, and a check mark is placed in the Reference column to show that the individual amount is not to be posted. When the totals of the cash receipts journal are posted the cash sales are included in the total of the Accounts Receivable column, which total is credited to Accounts Receivable. Thus this credit cancels out the debit that was made from the sales journal. Cash sales of $105.10 are entered in the sales journal as follows:

Sales Journal

Date		Invoice No.	Account Debited	R	Sales	
Jan.	2	101	M. Jones		75	00
	2	102	S. Brown		125	00
	2		Cash Sales	√	105	10
			Accounts Receivable, Dr. Sales, Cr.		305	10

The total $305.10, which includes cash sales of $105.10, is posted to the debit of Accounts Receivable and to the credit of Sales. The $75 and $125 are posted to the debit of M. Jones and S. Brown in the customers' ledger.

In the cash receipts journal the $105.10 would be entered in the Cash column and in the Accounts Receivable column as follows:

Cash Receipts Journal

Date		Account Credited	Explanation	R	General	Accounts Receivable		Sales Discounts		Cash	
Jan.	2	E. Adams	On account			100	00	2	00	98	00
		A. Smart	On account			25	00			25	00
		Cash sales		√		105	10			105	10
						230	10	2	00	228	10

When these totals are posted, a debit of $228.10 is made to Cash, a debit of $2 to Sales Discounts, and a credit of $230.10 to Accounts Receivable. The credit of $230.10 includes the cash sales of $105.10, and this credit offsets the debit made from the sales journal. The $100 and $25 are posted to the credit of the E. Adams and A. Smart accounts in the accounts receivable ledger. The $105.10 is not posted.

One advantage of this method is that the cash sales are recorded in the sales journal with the other sales.

Cash Purchases. There are three common methods used to record cash purchases:

1. The cash purchases are entered in the General column of the cash disbursements journal.

2. The cash purchases are recorded in the purchase journal as purchases on credit, and the cash is entered in the cash disbursements journal in the Accounts Payable and Cash columns.

3. The cash purchases are entered in the purchase journal, but the individual amounts are not posted.

1. If cash purchases are seldom made they may be entered in the General column of the cash disbursements journal, the debit being to Purchases and the credit to Cash.

2. Many enterprises enter cash purchases in the purchase journal as purchases on credit, the cash being entered in the cash disbursements journal as a debit to the trade-creditor. A cash purchase of $100 made from the Central Machine Co. is entered in the purchase journal as a debit to Purchases and a credit to Accounts Payable, and the $100 is posted to the credit of the Central Machine Co. The payment of $100 is entered in the cash disbursements journal in the Accounts Payable column and in the Cash column, and it is posted from the Accounts Payable column as a debit to the Central Machine Co. The advantages of this method are, the trade-creditor's account contains a complete record of the transactions with him, and the purchase is entered in the purchase journal with the other purchases.

3. The cash purchases may be entered in the purchase journal exactly as under method 2, the only difference being in the postings. Under this method, the individual amounts are not posted to trade-creditors' accounts, check marks being placed in the Reference column. The total from the purchase journal is debited to Purchases and credited to Accounts Payable, and the cash purchases are included in these totals. The payment is entered in the Accounts Payable and Cash columns of the cash disbursements journal, but a check mark is placed in the Reference column to show that the individual amount is not to be posted. When the totals are posted from the cash disbursements journal, the debit to Accounts Payable and credit to Cash are included in these totals. Under this method all the purchases are included in the purchase journal, but the trade-creditor's account does not contain all the transactions with that creditor.

C.O.D. Sales. C.O.D. sales are sales for which the cash is to be received on delivery.

When the cash is to be collected on the day the sale is made, or the following day, many companies make no formal record of the sale at that time. Under a common method of handling such sales, stores require one copy of the sales ticket to be sent to the auditor and one or two copies to the shipping clerk, who gives one ticket to the driver. The driver is ex-

pected to return the goods or the cash to the shipping clerk who must settle with the cashier. The sale is then recorded as a cash sale.

In some instances C.O.D. sales are recorded as credit sales. The sale is recorded in the usual way, and when the cash is collected, it is credited to the customer's account. Unless the purchaser is a regular customer, this method should not be used, because under it many customers' accounts are opened which contain only one debit and one credit.

Another good method of recording C.O.D. sales is by debits to a C.O.D. Sales account which is opened in the accounts receivable ledger. Each C.O.D. sale is entered in the sales journal as a sale on credit, and the amount is debited to the C.O.D. Sales account in the account receivable ledger. When the cash is received, it is entered in the Cash column and in the Accounts Receivable column of the cash receipts journal, and each amount is credited to the C.O.D. Sales account. The customer's name is entered in the C.O.D. Sales account both when the debit is posted and again when the credit is posted. A C.O.D. sale of $75.50 to A. Brett would be entered in the sales journal as a debit to C.O.D. Sales, as follows:

Sales Journal Page 5

Date		Invoice Number	Account Debited	R	Amount	
May	5	95	C.O.D. Sales, A. Brett	R8	75	50

When the total of the Amount column is posted, Accounts Receivable will be debited and Sales credited. The $75.50 is posted to the debit of the C.O.D. Sales account in the accounts receivable ledger, as follows:

C.O.D. Sales

Jan.	3	W. West	1	95	60	Jan.	4	W. West	R1	95	60
May	5	A. Brett	5	75	50						

When the $75.50 is collected, the amount is entered in the Accounts Receivable and Cash columns of the cash receipts journal. The $75.50 is posted to the credit of the C.O.D. Sales account in the accounts receivable ledger, and is entered on the same line as the debit. And when the totals are posted, the debit to Cash and the credit to Accounts Receivable are made.

C.O.D. Sales

Jan.	3	W. West	1	95	60	Jan.	4	W. West	R1	95	60
May	5	A. Brett	5	75	50	May	6	A. Brett	R9	75	50

Columnar Sales Journal. Columnar sales journals are common in businesses whose sales can be identified by departments, products, territories, or the like. A store might use a sales journal with a column for the sales of each department such as men's clothing or hardware. A ladies' small specialty shop with three lines—dresses, coats, and suits—might use a sales journal with sales columns for each line. Such a journal provides a continuous record of each type of sales.

An illustration of a columnar sales journal is now presented.

Sales Journal

Date		Sales Tickets	Accounts Receivable		Sales, Coats		Sales, Shoes		Sales, Suits	
1942										
Jan.	2	No. 1- 75	415	20	220	40	100	00	94	80
	3	76–170	374	15	115	20	163	10	95	85
	4	171–250	404	60	196	15	148	40	60	05
	5	251–391	430	25	183	10	160	30	86	85
	31	1801–75	418	95	218	30	116	20	84	85
			9,605	25	4,763	10	3,360	15	1,482	00
			(5)		(96)		(97)		(98)	

Each day the sales tickets would be sorted to obtain the credits to the various sales accounts. The total of the tickets is entered in the Accounts Receivable column, which is a debit column, and the amount of each type of sale is entered in its respective column. The postings from the preceding sales journal are made as follows:

Accounts Receivable is debited $9,605.25, the total of the Accounts Receivable column.

Sales, Coats, is credited $4,763.10, the total of the column headed Sales, Coats.

Sales, Shoes, is credited $3,360.15, the total of the column headed Sales, Shoes.

Sales, Suits, is credited $1,482.00, the total of the column headed Sales, Suits.

The entries to the accounts in the accounts receivable ledger are made direct from the sales tickets.

The actual procedure followed varies with different companies and circumstances. The different departments of a store make out sales tickets for all sales on credit, which enables the accounting department to obtain the sales by departments with little difficulty. But when there are no formal departments, as in a small store, the segregation of the sales is more difficult. It is then necessary to make a tabulation of the different classes of sales from the sales tickets. For expensive products like dresses and suits, both the price and cost of each garment may be entered from the sales tickets on a columnar form which serves as the sales journal. A copy of

this form is sent to a clerk who keeps the records of the stock on hand. A wholesale or manufacturing enterprise with only a few departments may include columns on the sales invoice for the sales of each department or type of product. Enterprises with dozens or even hundreds of different classifications of sales may find it necessary to use "strip" forms or tabulating machines if they wish to obtain the totals of the different types of sales.[1]

When sales are recorded by departments, cash sales may be entered in the Accounts Receivable column under method 4, for handling cash sales, page 217, or, if the amount of the cash sales is desired, the following method may be used. The cash sales may be entered in a special column in the sales journal and in the General column in the cash receipts journal. Let us refer to the sales journal below:

Sales Journal

Date		Explanation	Accounts Receivable	Cash Sales	Sales, Men's Shoes	Sales, Ladies' Shoes	Sales, Children's Shoes
Jan.	4	Cash regtr. summary		275.00	75.00	100.00	100.00
	4	Sales tickets, 1–116	550.00		225.00	175.00	150.00
	9	Cash regtr. summary		485.00	125.00	260.00	100.00
	9	Sales tickets, 117–283	860.00		230.00	330.00	300.00
	13	Cash regtr. summary		415.00	75.00	185.00	155.00
	13	Sales tickets, 284–405	750.00		210.00	320.00	220.00
			2,160.00	1,175.00	940.00	1,370.00	1,025.00
			(6)	(58)	(57)	(55)	(56)

The cash sales were entered in Cash Sales column and also in the classified sales columns. This is done in order to utilize the departmental sales columns in the sales journal and in this way eliminate the need of special sales columns in the cash receipts journal, one column headed sales or cash sales being sufficient.

The sales journal illustrated above has the following debit and credit columns:

Dr. Accounts Receivable
Dr. Cash Sales
Cr. Sales, Men's Shoes
Cr. Sales, Ladies' Shoes
Cr. Sales, Children's Shoes.

The total of the Cash Sales column of the cash receipts journal will be credited to Cash Sales. Thus the Cash Sales account will have the same

[1] A discussion of such methods belongs in more advanced courses, such as a course on Accounting Systems.

debit and credit at the end of the month or whenever the books of original entry are posted up to date:

Cash Sales

Jan.	13	1,175.00	Jan.	13	1,175.00

Although this account has no balance, it provides the total of the cash sales, and this total may be desired for budgeting purposes.

Companies with a large volume of cash sales often record the cash sales very much this way. The total for each day is entered in the cash receipts journal as a debit to Cash and a credit to Cash Sales. This total is entered in a sales journal similar to that on page 222 as a debit to Cash Sales, and the respective cash sales are entered in the sales columns.

Columnar Purchase Journals. Columnar purchase journals may be used to facilitate the recording of different kinds of purchases. Columns may be included in such a journal for purchases of the different departments, and if the volume is sufficiently large, columns may be included for purchases of office supplies, sales supplies, equipment, etc.

An example of a columnar purchase journal is given on page 224.

The postings to the general ledger accounts are made as follows:

The total of the Accounts Payable column is posted as a credit to the control account, Accounts Payable, and each amount is posted to the credit of a trade-creditor's account in the accounts payable ledger.

The total of the column Purchases, Coats, is posted as a debit to the general ledger account of that name.

The total of the column Purchases, Dresses, is posted as a debit to the general ledger account of that name.

The total of the column Purchases, Suits, is posted as a debit to the general ledger account of that name.

The total of the column Office Supplies is posted as a debit to the general ledger account of that name.

The total of the column Sales Supplies is posted as a debit to the general ledger account of that name.

Recording Sales Taxes. The recording of sales taxes does not present any great difficulties, although it adds to the bookkeeping detail. Retail stores doing a cash business often keep the cash collected for sales taxes separate from the other cash, and when a deposit is made, Cash or the Bank is debited and Sales, and Sales Taxes Payable are credited.

Many retailers, wholesalers, and manufacturers include in the sales journal a special column for the sales taxes payable. The total charge to the customer, including the sales tax, is entered in the Accounts Receivable

Purchase Journal

Date		Account Credited	Terms	Invoice Number	R	Accounts Payable		Purchases Coats		Purchases Dresses		Purchases Suits		Office Supplies		Sales Supplies	
May	2	Homan Supply	8/10, EOM	115	10	365	40	365	40								
	3	Arco Mfg. Co.	8/10, EOM	116	3	215	20					215	20				
	4	Wilson Supply	1/10, n/30	117	38	75	50							75	50		
	5	Max Carton	2/10, n/30	118	17	115	60									115	60
	29	Manco Dress Co.	8/10, EOM	152	15	415	40			415	40						
						8,800 (45)	10	3,216 (65)	40	2,895 (66)	10	1,856 (67)	50	372 (22)	40	459 (26)	70

column, the sales are entered in the Sales columns, and the sales tax in the Sales Taxes Payable column.

Sales Journal

Date		Ticket Nos.	Accounts Receivable	Cash Sales	Sales, Radios	Sales, Refrig'rs	Sales Taxes Payable
May	1	1–10	1,804.56		815.20	936.80	52.56
	1	1– 3		341.45	105.40	226.10	9.95
	2	11–18	1,689.20		796.25	843.75	49.20
	2	4– 8		508.31	180.30	313.20	14.81

At the end of the month the total of the Sales Taxes Payable column is credited to the account Sales Taxes Payable. Periodically, often at the end of each quarter, payment is made to the state, and the Sales Taxes Payable account debited and Cash credited.

When sales returns are recorded, an entry is made to debit Sales Returns and Allowances, to debit Sales Taxes Payable, and to credit the customer:

June	5	Sales Returns and Allowances Sales Taxes Payable Joe Dwight To record credit memo No. 138		100.00 3.00		103	00

If the sales tax is a fixed percentage of all sales regardless of the amount and if all sales are credited to the Sales account, it may be practicable in some instances to disregard the recording of the sales tax until the time of payment or until the end of the accounting period. For example, the sales less the sales returns and allowances, but including the sales tax, were $30,900, and this amount was debited to Accounts Receivable and credited to Sales. If the sales tax was 3 per cent, the sales for the period would be determined by dividing $30,900 by 1.03 to obtain $30,000, and the sales tax for the period would be $30,900 minus $30,000, or $900. The following entry would be made:

March	31	Sales Sales Taxes Payable To record sales tax Jan. 1–March 31		900	00	900	00

If sales taxes were payable quarterly a similar entry would be made at the end of each quarter. If the taxes were payable monthly, the entries would be made each month.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. William Arthur returned merchandise purchased for $75 to Nelson Bros. Retail Store. A journal entry was made in a two-column journal to credit Wm. Arthur

with this amount. Explain how you would post this entry if Mr. Arthur's account is in the accounts receivable ledger.

2. The total of the sales returns and allowances journal Amount column was $863.10. Explain how the postings would be made to the general ledger accounts and to the customers' accounts in the accounts receivable ledger.

3. Explain why the cash received from a customer, entered in the cash receipts book on page 216, was not entered in the Accounts Receivable column.

4. How might cash sales be recorded if there were few cash sales transactions?

5. If cash sales were entered both in the cash receipts journal and the sales journal, explain how you would make the postings to the ledger accounts.

6. Might cash sales ever be posted as sales on credit?

7. What is a C.O.D. sale?

8. How would you record the C.O.D. sales of a small business?

9. Give two ways of entering a sale for $300 to Wm. Arthur, who paid $50 cash, gave a note for $100, the balance to be on credit.

10. A sale for $100 was made to Alex Harmon from whom a 90-day, 6 per cent note was received for this amount. Give two ways of recording this transaction.

11. A purchase for $400 was made from the National Grocers. Cash of $100 was paid. A 60-day, 6 per cent note for $200 was given to National Grocers; the balance was to be on credit. Give two ways of recording this transaction.

12. A purchase for $200 was made from Warton Walls, Inc. A 90-day, 4 per cent note was given to them. Give two ways of recording this transaction.

13. Received a 90-day, 3 per cent, $100 note from Wm. White, who owed $100 on account. Give the entry for this transaction.

14. Gave a 60-day, 4 per cent, $300 note to Sure-Supply, to whom we owed $300 on account. How would you record this transaction?

15. Design a sales journal that will enable you to post the sales on account to the following four sales accounts: Sales, Hats; Sales, Shoes; Sales, Coats; Sales, Suits.

16. What might be entered in the purchase journal besides purchases of stock in trade?

17. How would you ordinarily record sales taxes payable?

LABORATORY PROBLEMS

1. (a) Make entries for the following in a cash receipts book with columns headed General, Accounts Receivable, Sales, Sales Discounts, and Cash:

May	3	Collected $25 rent for May.
	4	Collected $75.50 from R. Pilet on account.
	7	Collected $50, less 2 per cent, from J. Ruff, invoice No. 38.
	8	Cash sales, $15.50.
	11	Collected $45.75 on account from W. Williams.
	12	Collected from I. Smith, $60 less 2 per cent, invoice No. 46.
	14	Cash sales, $25.35.
	17	Collected $25 from E. Horter on account.
	18	Cash sales, $12.50.
	20	Collected $16.50 interest on Utility Corp. Bonds.

(b) Open T accounts and post to the ledger.

2. The following books of original entry are to be used: a one-column sales journal, a two-column general journal, a five-column cash receipts book with columns

headed General, Accounts Receivable, Sales, Sales Discounts, and Cash. Enter the cash sales in the cash receipts book only.

(a) Enter the following transactions in the books of original entry:

April 5 Sale on credit to A. Wright, $92.20; terms 2/10, n/30. Sale for $115.20 to E. B. Sams; accepted his 60-day, noninterest-bearing note for $115.20.
6 Sale on credit to Geo. Hunter, $125.30; terms 2/10, n/30. Cash sales, $45.40.
7 Sale on credit to Herman Contracting Co., $845.20; received $200 cash, a 60-day, 5 per cent note for $300, the balance to be paid in 90 days. Cash sales, $46.15.
8 Sale on credit to H. B. Turner, $95.60; terms 2/10, n/30. Cash sales, $65.15.
11 Received from R. B. Samuels a 60-day, noninterest-bearing note for $115.10, the balance of his account on March 31.
15 Cash sales, $65.40.
19 Sale on credit to E. W. Peters, $176.10; terms 2/10, n/30.
22 Collected from H. B. Turner for invoice of April 8. Collected $150 rent for April.
25 Sale on credit to A. English, $615.20; terms 2/10, n/30. Cash sales, $77.80.
27 Cash sale, $62.40. Sale on credit to P. W. Jones, $116.40; terms 2/10, n/30.
29 Collected from E. W. Peters for invoice of April 19.
30 Cash sales, $53.10. Collected from A. English for invoice of April 25.

(b) Open T accounts and post the data from the books of original entry.

3. (a) The following transactions are to be entered in a two-column general journal, a one-column sales journal, and in a cash receipts journal with columns headed General, Accounts Receivable, Sales, Sales Discounts, and Cash. The cash sales are to be entered in the cash receipts journal only.

July 3 Sale on credit to Battery Supply Co., invoice No. 63, $984.20, terms 2/10, n/30. Cash sales, $135.40.
5 Battery Supply Co. returned merchandise purchased on July 3 for $125, for which they were given credit. Sale on credit to Milford Hardware Co., $1,164.25, invoice No. 64, terms 2/10, n/30.
8 Cash sales, $116.20.
12 Battery Supply Co. paid invoice No. 63 less returns and discount. Sale on credit to Battery Supply Co., $965.75, invoice No. 65, terms 2/10, n/30.
15 Received a check from Milford Hardware Co. for invoice No. 64. Cash sales $99.80. Sale on credit to Miller Higgins Co., invoice No. 66, $698.10, terms 2/10, n/30.
18 Sale on credit to Manton Bros., invoice No. 67, $985.40, terms 2/10, n/30. Cash sales, $168.70.
20 Sale on credit to Battery Supply Co., invoice No. 68, $796.25, terms 2/10, n/30.
24 Cash sales, $154.60. Manton Bros. returned merchandise for which they were given credit of $100. Sale to Miller Higgins Co., invoice No. 69, $943.20, for which $400 cash and a 60-day, 5 per cent note for $200 were received, the balance on credit.
26 Sale on credit to Milford Hardware Co., invoice No. 70, $674.35, terms 2/10, n/30.
28 Cash sales $183.10. Manton Bros. paid invoice No. 67 less returns and discount.
31 Received a 90-day, 4 per cent note from Milford Hardware Co. for the balance of their account (grant no discount).

(b) Open T accounts and post all transactions.

4. (a) You are to enter the transactions for November in a one-column sales journal, and in a cash receipts journal with columns headed General, Accounts Receivable, and Cash. The cash sales are to be entered in both journals.

Nov. 1 Sale on credit to Hubert Bros., invoice No. 95, $896.25.
3 Sale on credit to McMillan Inc., invoice No. 96, $1,050.25. Entered cash sales of $325.10.

7 Sale on credit to Whitehorn Wholesale Co., invoice No. 97, $598.20. Entered cash sales of $423.20.
11 Sale on credit to Belvoir Supply Co., invoice No. 98, $1,516.20. Entered cash sales of $615.10. Received check from Hubert Bros. for invoice No. 95.
16 Sale on credit to Hubert Bros., invoice No. 99, $995.10. Entered cash sale of $515.20.
21 Received check from McMillan Inc., for invoice No. 96. Collected rent revenue of $150 for November.
24 Sale to McMillan Inc., invoice No. 100, $815.10. Entered cash sales of $493.20.
26 Received check from Belvoir Supply Co. for invoice No. 98. Entered cash sales of $384.10. Collected interest revenue of $85.50.
30 Sales to Whitehorn Wholesale Co., invoice No. 101, $645.10. Entered cash sales of $615.25.

(b) Open T accounts in the general ledger and post to these accounts.

5. The following books of original entry are to be used: a one-column sales journal; a two-column general journal; and a cash receipts book with columns headed General, Accounts Receivable, Sales Discounts, and Cash. The cash sales are to be entered both in the sales journal and the cash receipts journal:

May 4 Sale to Glenbrook Hardware, $250.20; terms 1½/10, n/30.
6 Sale to Martin and Manson, $165.10; terms 1½/10, n/30.
7 Sale to Armour Supply, $195.40; terms 1½/10, n/30.
9 Cash sale, $16.25. Martin and Manson were credited $25 for merchandise returned.
10 Cash sale, $25.50.
11 Sold merchandise to Helmer Hardware, $556.20; received $200 cash, a 60-day, 6 per cent note receivable for $200, the balance to be paid in 90 days.
13 Sold merchandise to Wilton Hardware for $89.20; received their 60-day, 6 per cent note receivable.
14 Cash sale, $12.45. Helmer Hardware was given credit of $25 for merchandise returned.
17 Sold merchandise to Joe Simson, $800; received cash of $300, a 60-day, 6 per cent note receivable for $200, the balance due in 90 days.
18 Received check from Armour Supply for invoice of May 7.
21 Collected $75 interest on investments.
23 Sale to Glenbrook Hardware, $268.10; terms 1½/10, n/30.
26 Sale to Walton Stores, $645.50; received their 60-day, 6 per cent note for $645.50.

Make entries in the books of original entry and post to T accounts in all ledgers.

6. Make up a two-column general journal, a one-column purchase journal, and a cash disbursements book with columns headed General, Accounts Payable, Purchase Discounts, and Cash.

(a) Enter the following transactions:

June 3 Purchased merchandise from Mack and Mack, $1,300, on credit; terms 2/10, n/30.
5 Purchased merchandise from Stimson and Jones for $1,800; paid Stimson and Jones $500 cash, and gave them a 60-day, 6 per cent note for $700, the balance on account.
7 Returned merchandise to Mack and Mack for which a credit of $100 was received.
8 Purchased merchandise from Curtis Bros. for $900; terms 1/10, n/30.
9 Paid Mack and Mack $700 less the discount on $700, and gave them a 90-day, 5 per cent note for $500.
12 Paid Curtis Bros. invoice of June 8.
14 Purchased merchandise from Mack and Mack for $600; terms 2/10, n/30.
18 Purchased merchandise from Eastern Specialties Co. for $800; terms 1/10, n/30.
19 Paid freight of $50 on shipment from Eastern Specialties Co.

20 Made a cash purchase for $75. Returned merchandise purchased from Mack and Mack for $200.
22 Paid rent for June, $150.
25 Purchased merchandise from Hamilton Manufacturing Co. for $900; paid $300 cash and gave them a 60-day, 4 per cent note payable for the balance.
27 Returned merchandise to Eastern Specialties Co.; received credit of $200.
28 Made a cash purchase of $100. Gave Eastern Specialties a 90-day, 4 per cent note for $600.

(b) Open T accounts and post to all the accounts in the general ledger and the accounts payable ledger.

7. The following books of original entry are to be used: a one-column purchase journal; and a cash disbursements book with columns headed General, Accounts Payable, Purchases, and Cash.

(a) Enter the following transactions:

July 5 Purchased merchandise from Southern Wholesale Co., $95.10; terms 2/10, n/30. Cash purchases, $75.40.
7 Purchased merchandise from Calto Manufacturing Co., $695.80; terms 1/10, n/30.
8 Cash purchase, $85.60. Purchased merchandise from J. G. Clark & Co., $495.60; terms 2/10, n/30.
10 Purchased merchandise from Great Eastern Wholesale Co., $1,100.50; paid $500 cash on this purchase.
12 Cash purchase, $95.40. Paid Wm. Brown his sales salary of $75.
13 Purchased merchandise from Mercasto Sales Co., $415.10.
14 Cash purchase, $65.20. Paid rent for July, $250.
15 Cash purchase, $46.40.
18 Paid Calto Manufacturing Co. invoice of July 7.
19 Paid J. G. Clark & Co., invoice of July 8.
21 Purchased merchandise from Southern Wholesale Co., $595.40; terms 2/10, n/30. Cash purchase, $28.30.
26 Purchased merchandise from Calto Manufacturing Co., $675.10; terms 1/10, n/30.

(b) Open T accounts and post to the general ledger accounts.

8. The balance sheet of A. K. Wiles on July 1, 1942, was: Cash $6,000, Inventory $2,500, A. K. Wiles Proprietorship $8,500. You are required to open the books of Mr. Wiles on that date. On one sheet of journal paper write the headings Purchase Journal and Sales Journal, allowing at least five lines for each journal. On a sheet of four-column paper allow 15 lines for the cash disbursements journal and six lines for the cash receipts journal. The cash disbursements journal will have columns headed General, Accounts Payable, Purchase Discounts, and Cash. The cash receipts journal will have columns headed General, Accounts Receivable, Sales Discounts, and Cash. You are to use a two-column general journal. The transactions are to be entered in these books of original entry and posted to the T accounts. Open the general ledger accounts on one sheet of plain paper, the customers' and creditors' accounts on another sheet, the upper half of which will be used for the customers' accounts and the lower half for the creditors' accounts. The following are the transactions for July:

Sales on credit: July 9, A. B. Sims, $800, terms 2/10, n/30; July 17, A. B. Hill, $750, 2/10, n/30; July 26, C. E. Gregg, $400, terms 2/10, n/30.

Purchases on credit: July 5, Alfred Manufacturing Co., $960.50, terms 1/10, n/30; July 8, Hinton Manufacturing Co., $1,100, terms 3/10, n/30; July 10, E. F. Knight & Co., $800, terms 2/10, n/30; July 28, purchase from Western Hardware Co., $400, for which a 90-day, 4 per cent note was issued.

Cash receipts: July 15, from A. B. Sims, $800 less 2 per cent; July 29, from C. E. Gregg, $400 less 2 per cent.

Cash disbursements: July 10, Alfred Manufacturing Co., $200; July 11, office supplies, $60; July 16, Hinton Manufacturing Co., $1,100 less 3 per cent; July 17, E. F. Knight & Co., $800 less 2 per cent; July 18, delivery equipment, $1,200; freight in, $200; prepaid insurance, $80; July 31, sales salaries, $250; office salaries, $175; rent expense, $200.

Other transactions: July 10, gave Alfred Manufacturing Co. a 90-day, 5 per cent note for $300; July 20, A. B. Hill returned merchandise for which he was granted $50 credit; July 25, received a 60-day, 4 per cent note for $150 from A. B. Hill.

Adjusting information: Depreciation of delivery equipment, $25; bad debts, 0.5 per cent of total sales; disregard accrued interest; unpaid sundry expenses, $75; inventory, $4,400; insurance expired, $5; office supplies on hand, $50.

(a) Enter the transactions for July in the books of original entry and post to T accounts.

(b) Make up a trial balance.

(c) Make the adjusting entries in the journal and post to the T accounts.

(d) Make up a trial balance after the adjusting entries have been made.

(e) Make the closing entries in the journal and post to T accounts.

9. The Breton Moore Agency had three departments: canned goods, breakfast foods, and condiments.

(a) You are to record the following sales in a sales journal with columns for Accounts Receivable; Sales of Canned Goods; Sales of Breakfast Foods; Sales of Condiments; and Sales Taxes Payable.

April 3 Hiway Chain Store, canned goods $316.80, breakfast foods, $242.20, sales tax $5.59.
5 Milton Stores, canned goods $146.90, breakfast foods $115.25, condiments $66.40, sales tax $3.29.
8 Red and Blue Stores, canned goods $246.90, breakfast foods $169.70, condiments $115.25, sales tax $5.32.
12 Cash and Delivery Stores, canned goods $185.40, condiments $116.20, sales tax $3.02.
17 Hiway Chain Store, breakfast foods $248.20, condiments $195.20, sales tax $4.43.
23 Sureway Stores, canned goods $285.20, breakfast foods $194.40, condiments $175.60, sales tax $6.55.
26 Red and Blue Stores, canned goods $254.20, breakfast foods $159.20, condiments $105.20, sales tax $5.19.
29 Hiway Chain Store, canned goods $276.40, condiments $177.90, sales tax $4.54.

(b) Open T accounts and post to all accounts.

10. Enter the transactions for September in a general journal with the following columns: Debit columns: General, Sales Return and Allowances, Accounts Payable, and Notes Receivable. Credit columns: General, Purchase Returns and Allowances, Accounts Receivable, and Notes Payable.

Sept. 1 Returned merchandise to Chicago Specialty Co. and debited them $258.60.
3 Gave Hilton Bros. a 90-day, 5 per cent note payable in payment of balance of $537.90.
6 Sold merchandise to Bilton Lumber Co. for $674.20; accepted their 60-day non-interest-bearing note.
8 A. L. Munson returned merchandise for which he was granted credit of $53.10.
11 Accepted W. E. Jones's 90-day, 4 per cent note for his balance of $234.60 which was overdue.

14 A note received on July 3 from Hurst Development Co. for $633.10 is overdue and unpaid. This amount plus interest of $5.34 is debited to their account.
18 N. Z. Beaton returned merchandise for which he was granted credit of $42.50.
20 Returned merchandise to Midwest Wholesale Co. and debited them $98.20.
22 Sold merchandise to M. & M. Mining Company for $398.70; accepted their 90-day, 4 per cent note.
25 Gave Caltex Supply Company a 90-day, 5 per cent note for their balance of $533.70.
26 Purchased merchandise from Trenton Canneries for $435.40; gave them a 60-day, 4 per cent note payable.
27 Accepted S. B. James's 90-day, 6 per cent note in payment of his balance of $186.20.
28 Merchandise sold on August 28 to S. B. Irwin was debited in error to A. B. Hall, $200.

11. Make up a sales journal with the following amount columns: Accounts Receivable, Radio Sales, Refrigerator Sales, and a cash receipts journal with a General column, an Accounts Receivable column, and a Cash column.

May 1 Sales on credit: radios $196.10, refrigerators $585.70. Cash sales: radios $75.80, refrigerators $210.20.
3 Sales on credit: radios $215.25, refrigerators $495.25. Cash sales: Radios $98.25, refrigerators $196.40.
4 Sales on credit: radios $225.75, refrigerators $385.10. Cash sales: radios $116.20.
5 Sales on credit: radios $205.20, refrigerators $485.10. Cash sales: radios $43.80, refrigerators $140.20.
6 Sales on credit: radios $175.40, refrigerators $375.60. Cash sales: radios $75.15, refrigerators $155.10.
7 Sales on credit: radios $185.40, refrigerators $345.50. Cash sales: radios $95.35, refrigerators $420.25.

Cash was collected as follows:

May 1 On account $215.40; from cash sales $286.00.
3 On account $195.60; from cash sales $294.65.
4 On account $345.80; from cash sales $116.20.
5 On account $576.10; from cash sales $184.00.
6 On account $270.40; from cash sales $230.25.
7 On account $616.15; from cash sales $515.60.

(a) Enter these transactions in the books of original entry.

(b) Open the T accounts you will need and post the above transactions to the general ledger accounts.

12. On one sheet of journal paper provide space for a sales journal, a purchase journal, a cash receipts journal, and a cash disbursements journal, allowing one-fourth page for each. The other side of the sheet is to be used for the general journal.

The balance sheet accounts on October 1 were: Cash $5,000, Inventory $3,000, and E. B. Morton Proprietorship $8,000. The following were the transactions for October:

Oct. 3 Sale to A. L. Perrin, $3,262.50, invoice No. 61. Purchased insurance for one year for $42 cash.
8 Purchase from B. V. Brown & Co., on credit, $2,596.50. Bought office supplies for $35 cash.
14 Sale on credit to King Manufacturing Co., $4,216.70, invoice No. 62.
Collected $3,262.50 from A. L. Perrin in payment of invoice No. 61.
23 Purchase from C. B. Sharp & Co., on credit, $5,913.70. Returned merchandise to

B. V. Brown & Co., $525.30, for credit. Paid freight in on merchandise purchased from C. B. Sharp & Co., $150.

28 Sale on credit to Petridge Bros., $4,596.10, invoice No. 63. Received a 60-day non-interest-bearing note from King Manufacturing Co. for invoice No. 62. Paid sales salaries of $250, office salaries of $200, and sundry expenses of $75.

(a) Open the books, enter the preceding transactions in the books of original entry, and post to T accounts in the general ledger, the accounts receivable ledger, and the accounts payable ledger.

(b) Make the adjusting journal entries from the following information and post to T accounts: Final inventory $2,800, unexpired insurance $38.50, office supplies on hand $30, bad debts, 1 per cent of total sales.

(c) Make the closing journal entries and post to T accounts.

CHAPTER XIII. THE WORK SHEET

The Trial Balance. As stated on page 60, a trial balance is obtained when the total of the balances of accounts with debit balances is found to agree with the total of the accounts with credit balances. Accountants generally take two trial balances and sometimes a third. These are:

The preclosing trial balance, often called the trial balance, taken before the adjusting and closing entries are made. It is really a preadjusting and preclosing trial balance.

The adjusted trial balance taken after the adjusting entries are made but before the closing entries are made.

The postclosing trial balance taken after the books are closed.

The first and third trial balances are usually taken, and the second may be taken when the books are closed without the aid of a work sheet.

The Preclosing Trial Balance. The preclosing trial balance is taken to prove that the accounts are in balance before the adjusting entries are made. When they are in balance the books are assumed to be correct although actually they may not be. Compensating errors, that is errors that offset one another, may have been made, or entries may have been made in wrong accounts.

The Adjusted Trial Balance. The chief purpose of the adjusted trial balance is to serve as an aid in closing the books when the books are closed without the use of a work sheet.

The Postclosing Trial Balance. *The postclosing trial balance contains no revenue or expense accounts,* these accounts having been closed. This trial balance is taken to prove that the books are in balance immediately after being closed, and before the entries for the next period are made. Errors may be made in closing the books, and if so, they should be revealed by the postclosing trial balance.

The Work Sheet. The work sheet is a columnar sheet which in its simplest form contains:

The preclosing trial balance.

The debits and credits for the adjusting entries made in such a way that they can be conveniently added to or subtracted from the balances of accounts on the trial balance.

The adjusted trial balance obtained by combining the amounts in the preclosing trial balance columns with the debits and credits for the adjusting entries.

The balances of the profit and loss accounts in two columns—one for the debits and one for the credits. These balances are obtained from the Adjusted Trial Balance columns.

The balances of the balance sheet accounts in two columns—one for the debits and one for the credits. These balances are obtained from the Adjusted Trial Balance columns.

The work sheet is used to facilitate preparation of the fundamental statements (the balance sheet and statement of profit and loss), and also the process of adjusting and closing the books.

Ordinarily a considerable amount of work is required to make the adjusting and closing entries in the journal, to post them to the ledger, and to prepare the statements. Not only does this process take time, but errors are likely to be made. By the use of a work sheet the whole process may be speeded up, particularly *the preparation of the statements, which can be made up before the adjusting and closing entries are made in the journal and in the ledger.* Finally, any errors made are detected more readily.

Sometimes the work-sheet procedure isn't used. The statements can be prepared and the adjusting and closing entries made without it, as has already been demonstrated. The work-sheet procedure is justified only when it facilitates this process.

A simple type of work sheet form is now illustrated:

Account Name	Trial Balance		Adjustments		Adjusted Trial Balance		Profit and Loss		Balance Sheet	

This form contains space for the account name and debit and credit columns for the following: the preclosing trial balance, the adjustments, the adjusted trial balance, the profit and loss accounts, and the balance sheet accounts.

Illustration of the Work Sheet Method. We shall illustrate the work-sheet procedure by using the trial balance and the adjusting data for Jones Rite-Price Store as of December 31, 1944. The following is the preclosing trial balance:

Jones Rite-Price Store

Trial Balance
December 31, 1944

Cash	$ 5,000	
Accounts Receivable	6,000	
Reserve for Doubtful Accounts		$ 110
Inventory, January 1	7,000	
Buildings and Equipment	10,000	
Reserve for Depreciation of Buildings and Equipment		1,000
Prepaid Insurance	300	
Accounts Payable		3,000
Notes Payable		100
Jones Rite-Price Store, Proprietorship		21,790
Sales		27,000
Purchases	19,000	
Purchase Returns and Allowances		500
Freight In	1,800	
Sales Salary Expense	2,100	
Delivery Expenses	1,500	
Sundry Sales Expenses	500	
Office Salary Expense	1,200	
Sundry Office Expenses	100	
Rent Revenue		1,000
	$54,500	$54,500

The following data are to be used in making the adjusting entries:

Inventory, December 31, 1944	$8,000
Estimated depreciation of buildings and equipment	1,000
Estimated bad debts	250
Accrued rent revenue	210
Insurance expense	100
Unpaid office salaries	100
Unpaid sales salaries	200

The preclosing trial balance is entered in the first two columns of the work sheet. The adjusting entry debits and credits are made in the next two columns. The amounts in these first four columns are then combined to obtain the amounts for the Adjusted Trial Balance columns. The amount of each revenue and expense item in the Adjusted Trial Balance columns is then placed in the proper Profit and Loss column, and the amount of each asset and liability account in the Adjusted Trial Balance columns is then placed in the proper balance sheet column.

The work sheet is prepared as follows:

The preclosing trial balance is entered in the first two columns, and these are totaled to see that they agree.

The debits and credits for the adjusting entries are made in the two columns headed Adjustments, and these are totaled and should agree.

The amounts in the Trial Balance and Adjustment columns are combined to obtain the amounts to be placed in the columns headed Adjusted Trial Balance. Each column is totaled, and the two totals should agree.

Each amount in the Adjusted Trial Balance columns is entered in either the Profit and Loss or Balance Sheet columns.

Jones Rite-Price Store
Work Sheet
December 31, 1944

Account Name	Trial Balance Dr.	Trial Balance Cr.	Adjustments Dr.	Adjustments Cr.	Adjusted Trial Balance Dr.	Adjusted Trial Balance Cr.	Profit and Loss Dr.	Profit and Loss Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	5,000				5,000				5,000	
Accounts Receivable	6,000				6,000				6,000	
Reserve for Doubtful Accounts		110		(g) 250		360				360
Inventory, January 1	7,000		(e) 8,000	(a) 7,000	8,000				8,000	
Buildings and Equipment	10,000				10,000				10,000	
Reserve for Depreciation on Buildings and Equipment		1,000		(f) 1,000		2,000				2,000
Prepaid Insurance	300			(i) 100	200				200	
Accounts Payable		3,000				3,000				3,000
Notes Payable		100				100				100
Jones Rite-Price Store, Proprietorship		21,790				21,790				21,790
Sales		27,000				27,000		27,000		
Purchases	19,000			(b) 19,000						
Purchase Returns and Allowances		500	(d) 500							
Freight In	1,800			(c) 1,800						
Sales Salary Expense	2,100		(j) 200		2,300		2,300			
Delivery Expenses	1,500				1,500		1,500			
Sundry Sales Expenses	500				500		500			
Office Salary Expense	1,200		(k) 100		1,300		1,300			
Sundry Office Expenses	100				100		100			
Rent Revenue		1,000		(h) 210		1,210		1,210		
	54,500	54,500								
Cost of Goods Sold										
Inventory, Jan. 1			(a) 7,000							
Purchases			(b) 19,000							
Freight In			(c) 1,800		19,300					
Purch. Returns. and Allowances				(d) 500			19,300			
Inventory, Dec. 31				(e) 8,000						
Depreciation of Bldgs. and Equipment			(f) 1,000		1,000		1,000			
Bad Debts			(g) 250		250		250			
Accrued Rent Receivable			(h) 210		210				210	
Insurance Expense			(i) 100		100		100			
Accrued Sales Salaries				(j) 200		200				200
Accrued Office Salaries				(k) 100		100				100
			38,160	38,160	55,760	55,760	26,350	28,210		
Net Profit							1,860			1,860
							28,210	28,210	29,410	29,410

Explanation of Adjustments:

(a) To close the balance of the Inventory account to Cost of Goods Sold.

(b) To close Purchases to Cost of Goods Sold.

(c) To close Freight In to Cost of Goods Sold.

(d) To close Purchase Returns and Allowances to Cost of Goods Sold.

(e) To record the cost of the final inventory.

(f) To record the amount of the depreciation of the building and equipment.

(g) To record the estimated bad debts for the period.

(h) To record rent of $210 earned on part of the building during December.

(i) To record the amount of the insurance expired.

(j) To record unpaid sales salaries of $200.

(k) To record unpaid office salaries of $100.

The Profit and Loss columns are totaled. The difference between the totals of the Profit and Loss columns is obtained, and this difference is entered in the Profit and Loss columns under the smaller total so that the columns will balance. If the difference is entered in the debit column, a credit is placed in the Balance Sheet credit column, and vice versa.

The Balance Sheet columns are totaled. The two totals should agree. If they do, the work sheet is said to be in balance.

This procedure will now be explained in more detail. At the end of the accounting period the balances of the open accounts are listed in the trial balance columns. These two columns are then totaled to make certain that they agree. This is simply the procedure of taking a preclosing trial balance, with which the reader is already familiar.

The debits and credits for the adjusting entries are made in the columns headed Adjustments. When the name of the account to be debited or credited appears on the trial balance, the debit or credit is placed opposite this account name. If the name of the account does not appear on the trial balance, the name is written in below the trial balance totals, and the debit or credit is placed opposite this account name. The entries placed in the Adjustments columns are identified by placing small figures or letters circled or in parentheses before each debit and the corresponding credit. For example, the first adjusting entry is lettered (a), the letter being placed before both the debit and credit. The entries are lettered or numbered consecutively as made. In this way the debit can always be identified with the credit and vice versa.

The entries for the cost of goods sold of the Jones Rite-Price Store may be made as follows:

Account Name	Trial Balance		Adjustments		Adjusted Trial Balance	
. . . .	. . .	. . .	. . . .	. . . . .	. . . .	
Inventory	7,000		(e) 8,000	(a) 7,000		
. . . .	. . .	. . .	. . . .	. . . . .	. . . .	
Purchases	19,000			(b) 19,000		
Purchase Returns and Allowances		500	(d) 500			
Freight In	1,800			(c) 1,800		
. . . .	. . .	. . .	. . . .	. . . . .	. . . .	
. . . .	. . .	. . .	. . .	. . . . .	. . . .	
. . . .	xxxx	xxxx	. . . .			
Cost of Goods Sold						
Inventory, Jan. 1			(a) 7,000			
Purchases			(b) 19,000			
Freight In			(c) 1,800			
Purchase Returns and Allowances				(d) 500	19,300	
Inventory, Dec. 31				(e) 8,000		
. . . .	. . .	. . .	. . . .	. . . . .	. . . .	

The cost of the beginning inventory is $7,000. A credit of $7,000 is placed in the Adjustments credit column opposite Inventory, and the debit is placed under the account name Cost of Goods Sold. This entry is lettered (a). Credits are placed opposite Purchases, and Freight In, and the corresponding debits are placed under Cost of Goods Sold. A debit is placed opposite Purchase Returns and Allowances and the credit is placed under Cost of Goods Sold. The final inventory is recorded by a debit placed opposite Inventory and a credit placed under Cost of Goods Sold. These amounts under Cost of Goods Sold are usually "bracketed" together as illustrated. The difference between the total of these debits and credits, which is the cost of the goods sold, is entered in the Adjusted Trial Balance debit column.

The depreciation of the buildings and equipment is recorded on the work sheet by a debit to Depreciation of Buildings and Equipment and a credit to Reserve for Depreciation of Buildings and Equipment. The name of the account Depreciation of Buildings and Equipment may or may not appear on the trial balance, and if it does not, it will have to be written in. The credit is placed in the Adjustments column opposite the title Reserve for Depreciation of Buildings and Equipment. These entries on the work sheet would appear as below:

Account Name	Trial Balance		Adjustments		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Reserve for Depreciation of Buildings and Equipment		1,000		(f) 1,000	
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Depreciation of Buildings and Equipment			(f) 1,000		

To record the bad debts on the work sheet the title of the account Bad Debts may have to be written in. The debit would be placed opposite this account title and the credit opposite Reserve for Doubtful Accounts as follows:

Account Name	Trial Balance		Adjustments		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Reserve for Doubtful Accounts		110		(g) 250	
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Bad Debts			(g) 250		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .

The rent of $210 earned but uncollected would be entered on the work sheet as a debit to Accrued Rent Receivable and a credit to Rent Revenue:

Account Name	Trial Balance		Adjustments		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Rent Revenue		1,000		(h) 210	
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Accrued Rent Receivable			(h) 210		

The insurance expense of $100 would be recorded by a debit to Insurance Expense and a credit to Prepaid Insurance as follows:

Account Name	Trial Balance		Adjustments		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Prepaid Insurance	300			(i) 100	
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Insurance Expense			(i) 100		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .

The accrued sales salary expense of $200 is recorded by a debit of $200 to Sales Salary Expense and a credit to Accrued Sales Salaries:

Account Name	Trial Balance		Adjustments		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Sales Salary Expense	2,100		(j) 200		
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .
Accrued Sales Salaries				(j) 200	
. . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . .

The entry for the accrued office salaries would be made in the same way as that for sales salaries.

Next, the amounts in the Trial Balance and the Adjustments columns are combined to obtain the amounts for the Adjusted Trial Balance columns as in the following illustration:

Account Name	Trial Balance		Adjustments		Adjusted Trial Balance		
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	
Reserve for Depreciation of Buildings and Equipment		1,000		(f) 1,000		2,000	
. . . .							
Prepaid Insurance	300			(i) 100	200		
. . . .							

Each revenue and expense item in the Adjusted Trial Balance columns is entered in the proper Profit and Loss column, and each asset and liability

item is entered in the proper Balance Sheet column. The first amount would probably be that of the asset Cash. This amount, which is in the Adjusted Trial Balance debit column, is placed in the Balance Sheet debit column, thus:

Account Name	Trial Balance		Adjustments		Adjusted Trial Balance		Profit & Loss		Balance Sheet	
Cash	5,000				5,000				5,000	

The amount of each asset is entered in the Balance Sheet debit column, and the amount of each liability is entered in the Balance Sheet credit column. The amount of each expense is entered in the Profit and Loss debit column, and the amount of each revenue account is entered in the Profit and Loss credit column.

Next, the Profit and Loss columns are totaled. If the total of the credit column is greater than that of the debit column, the amount of the difference, a profit in this case, is entered in the debit column on the line below the debit total. The same amount is entered in the Balance Sheet credit column. If no mechanical errors were made, the totals of the two Balance Sheet columns should agree.

The Profit and Loss columns and the Balance Sheet columns should be totaled and ruled. Since the total of the Profit and Loss credit column is \$1,860 greater than the total of the debit column, this amount should be entered in the Profit and Loss debit column and in the Balance Sheet credit column and lines would be ruled as follows:

Account Name		Profit and Loss		Balance Sheet	
		26,350	28,210		
Net Profit		1,860			1,860
		28,210	28,210	29,410	29,410

When the total of the Profit and Loss credit column is greater than the total of the debit column, the difference is the profit for the period. The credit for this profit may be made either to the personal account or the proprietorship account, but in making up the work sheet it is usually placed on the same line as the debit, as in the preceding illustration. When this amount is placed in the Balance Sheet column and the totals of the two Balance Sheet columns agree, the work sheet is said to be in balance and is assumed to be correct. However, it may not be; there may be com-

pensating errors. But if the work sheet is in balance, the statements are prepared and the adjusting and closing entries are made in the journal and posted to the ledger. Finally, a postclosing trial balance is made up from the ledger accounts; but this is not part of the work-sheet procedure. If any compensating errors were made, they should have now been revealed.

The Statements. The amounts in the Profit and Loss columns and in the Balance Sheet columns provide most of the data for the statements, although some of these amounts do not appear exactly as they will appear on the statements. For example, the amounts of the reserve for depreciation accounts are listed in the Balance Sheet credit column, whereas on the balance sheet these amounts are deducted from the assets to which they apply.

The data for the statement of profit and loss is obtained from the Profit and Loss columns of the work sheet except the details of the cost of goods sold, which are obtained from the Adjustments columns. The statement of profit and loss of the Jones Rite-Price Store for the year 1944 follows:

Jones Rite-Price Store

Statement of Profit and Loss
Year Ended December 31, 1944

Sales			$27,000
Less Cost of Goods Sold:			
Inventory, January 1, 1944		$ 7,000	
Purchases	$19,000		
Less: Purchase Returns and Allowances	500	18,500	
Freight In		1,800	
Goods Available for Sale		$27,300	
Inventory, December 31, 1944		8,000	19,300
Gross Margin			$7,700
Other Operating Expenses:			
Sales Salaries		$ 2,300	
Delivery Expenses		1,500	
Sundry Sales Expenses		500	
Bad Debts		250	
Depreciation of Building and Equipment		1,000	
Insurance Expense		100	
Office Salaries		1,300	
Sundry Office Expenses		100	7,050
Operating Profit			$ 650
Other Revenue:			
Rent Revenue*			1,210
Net Profit			$ 1,860

* If the operating expenses included expenses applying to this rent, the rent would be better shown as an addition to the gross margin.

The balance sheet of the Jones Rite-Price Store, which was prepared from the final two columns of the work sheet, is now illustrated:

Jones Rite-Price Store
Balance Sheet
December 31, 1944

Assets			*Liabilities and Proprietorship*	
Cash		$ 5,000	Accounts Payable	$ 3,000
Accounts Receivable	$ 6,000		Notes Payable	100
Less: Reserve for Doubtful Accounts	360	5,640	Accrued Sales Salaries	200
			Accrued Office Salaries	100
Inventory		8,000		$ 3,400
Buildings and Equipment	10,000		Jones Rite-Price Store, Proprietorship	23,650
Less: Reserve for Depreciation	2,000	8,000		
Prepaid Insurance		200		
Accrued Rent Receivable		210		
		$27,050		$27,050

The Adjusting Entries. The adjusting entries may now be made in the general journal. The debits and credits are entered in the same order as they are numbered or lettered on the work sheet. The following journal entries are made from the work sheet for Jones Rite-Price Store:

Dec. 31	(a)	Cost of Goods Sold	7,000	
		Inventory		7,000
		To close balance of Inventory account to Cost of Goods Sold		
	(b)	Cost of Goods Sold	19,000	
		Purchases		19,000
		To close Purchases to Cost of Goods Sold		
	(c)	Cost of Goods Sold	1,800	
		Freight In		1,800
		To close Freight In to Cost of Goods Sold		
	(d)	Purchase Returns and Allowances	500	
		Cost of Goods Sold		500
		To close Purchase Returns to Cost of Goods Sold		
	(e)	Inventory	8,000	
		Cost of Goods Sold		8,000
		To record the final inventory		

Two compound entries may be made instead of the above entries if one desires. Instead of entries (a), (b), and (c), the following entry may be made:

Cost of Goods Sold	27,800	
Inventory		7,000
Purchases		19,000
Freight In		1,800
To close Inventory, Purchases, and Freight In to Cost of Goods Sold		

Instead of entries (d) and (e):

Purchase Returns and Allowances	500	
Inventory	8,000	
Cost of Goods Sold		8,500
To close Purchase Returns to Cost of Goods Sold and to bring the final Inventory on the books		

(f)	Depreciation of Buildings and Equipment	1,000	
	Reserve for Depreciation of Buildings and Equipment		1,000
	To record depreciation at 10 per cent per year		
(g)	Bad Debts	250	
	Reserve for Doubtful Accounts		250
	To record estimated bad debts		
(h)	Accrued Rent Receivable	210	
	Rent Revenue		210
	To record December rent uncollected from R. E. Williams		
(i)	Insurance Expense	100	
	Prepaid Insurance		100
	To record insurance expired		
(j)	Sales Salary Expense	200	
	Accrued Sales Salaries		200
	To record unpaid sales salaries for December		
(k)	Office Salary Expense	100	
	Accrued Office Salaries		100
	To record unpaid office salaries for December		

The above entries when posted to the ledger will adjust the accounts.

The Closing Entries. The closing entries may be made from the Profit and Loss columns of the work sheet by the following procedure:

By making one compound journal entry to debit the Profit and Loss Summary account with the total of the Profit and Loss debit column of the work sheet, and to credit each of the individual accounts making up this total.

By making one compound entry to credit the Profit and Loss Summary account with the total of the credit column and to debit each respective account entering into this total.

By making an entry to close the balance of the Profit and Loss Summary account to the personal or proprietorship account.

The following closing entries are made from the work sheet of the Jones Rite-Price Store:

Dec. 31	Profit and Loss Summary	26,350	
	Sales Salaries		2,300
	Delivery Expenses		1,500
	Sundry Sales Expenses		500
	Office Salaries		1,300
	Sundry Office Expenses		100
	Cost of Goods Sold		19,300
	Depreciation of Buildings and Equipment		1,000
	Bad Debts		250
	Insurance Expense		100
	To close the expense accounts to the Profit and Loss Summary account		
Dec. 31	Sales	27,000	
	Rent Revenue	1,210	
	Profit and Loss Summary		28,210
	To close revenue accounts to Profit and Loss Summary account		
Dec. 31	Profit and Loss Summary	1,860	
	Jones Rite-Price Store, Proprietorship		1,860
	To close the Profit and Loss Summary account		

If a personal account is used, the balance of the Profit and Loss Summary account would probably be closed to this account, the balance of which may be closed to the proprietorship account or left as an open account.

When the preceding entries are posted to the ledger, the accounts may be ruled and a postclosing trial balance taken.

It is sometimes asked why the adjusting and closing entries are not posted from the work sheet direct to the ledger instead of being entered first in the journal. There are several reasons for this. First, the work sheet is not a formal part of the records but, as its name implies, simply a work sheet, generally made up in pencil. Another and more important reason for not making the entries direct to the ledger accounts is that journal entry brings the debit and credit together in one place in such a way that the entry can be supplemented by an explanation. The entries in the journal provide a permanent record with an explanation in one place.

Advantages of the Work Sheet. The work-sheet method is very useful to accountants because:

It speeds up the preparation of the balance sheet and statement of profit and loss.

It facilitates the preparation of interim statements.

It is invaluable in public accounting practice.

It facilitates the adjusting and closing procedure by proving the mechanical accuracy of the entries before they are recorded on the books.

It presents the debits and credits for the adjusting and closing entries in such a way that they can be easily transferred to the journal.

The work sheet contains all the accounts needed for the preparation of the balance sheet and the statement of profit and loss. The statement of profit and loss can be made up from the amounts in the columns headed Profit and Loss, together with the information as to the Cost of Goods Sold in the Adjustments columns, and the balance sheet can be made up from the amounts in the columns headed Balance Sheet. This may be done before the adjusting and closing entries are made in the journal and posted to the ledger. This fact, along with the fact that fewer errors will likely be made, may result in the completion of the statements a few days earlier than would be possible otherwise. Although executives usually obtain much current information on the operations of the business, they generally wish to obtain the balance sheet and statement of profit and loss as soon as possible after the close of the accounting period.

The work sheet is invaluable as an aid in producing *interim statements*, that is, statements made out during an accounting period. The formal accounting or fiscal period is usually considered to be one year, but many companies prepare statements at more frequent intervals. Monthly balance sheets and statements of profit and loss are now very common. In preparing

interim statements the formality of making the adjusting and closing entries on the books may be, and usually is, dispensed with. The statements may be prepared from the work sheet and the adjusting and closing entries omitted from the books until the end of the formal accounting period. All companies do not follow this policy. Some financial institutions, such as banks, adjust and close the accounts and prepare financial statements each day, and many merchandising and industrial enterprises close their books each month.

The work sheet is indispensable to public accountants because of the numerous corrections and adjustments they must make to the accounts of their clients. The public accountant usually enters on the work sheet the trial balance prepared by the employees of his client and checks it to the ledger. The errors that he discovers he corrects by making entries in the columns headed Adjustments; in this way he avoids changing the books of his client, and can prepare his own statements from the work sheet.

Since the debits and credits to be made in adjusting and closing the books may be obtained from the Adjustments and the Profit and Loss columns of the work sheet, the mechanical accuracy of the debits and credits is verified before the entries are made in the journal and posted to the ledger. Consequently errors are less likely to be made when these entries are made in the books.

Finally, the debits and credits for the adjusting entries may be obtained from the Adjustments columns since the debits can be identified with the corresponding credits. Such journal entries have already been explained.

Readjusting Entries. After the adjusting and closing entries have been made, readjusting entries (often called reversing entries) may be made to reverse the adjusting entries made for accrued revenues, accrued expenses, and for prepaid items if originally recorded in expense or revenue accounts. Although readjusting entries can usually be avoided, it is often expedient to make them.

Before we consider readjusting entries, let us consider an adjusting entry which would be reversed if the readjusting entry method were followed, but which we shall not reverse. On December 31 accrued interest receivable of $550 was recorded by the following adjusting entry:

Dec. 31	Accrued Interest Receivable	550	
	Interest Revenue		550
	To record accrued interest on East Coast Utility 5's of 1955		

The interest on these bonds was payable on January 15, on which date interest of $600 was received. Of this interest, $550 would be credited to the Accrued Interest Receivable account, and $50 would be recorded as interest revenue of January, as follows:

Jan. 15	Cash	600	
	Accrued Interest Receivable		550
	Interest Revenue		50
	To record interest to Jan. 15 on East Coast Utility 5's of 1955		

These entries correctly record these transactions, and no readjusting entries were made. If a readjusting entry had been made, it would obviate the necessity of splitting the credit on January 15 between the Accrued Interest Receivable account and the Interest Revenue account. To Illustrate, let us start again with the adjusting entry on December 31:

Dec. 31	Accrued Interest Receivable	550	
	Interest Revenue		550

Under the readjusting entry method this entry would be reversed on January 1, as follows:

Jan. 1	Interest Revenue	550	
	Accrued Interest Receivable		550
	To reverse adjusting entry		

This entry closes the Accrued Interest Receivable account, and places a debit in the Interest Revenue account on January 1, as follows:

Interest Revenue

Jan. 1	550		

When the interest is collected the entire amount is credited to the Interest Revenue account:

Interest Revenue

Jan. 1	550	Jan. 15	600

The result is exactly the same as before. The Accrued Interest Receivable account is closed, and the credit balance of the Interest Revenue account is $50. But instead of splitting the credit between two different accounts, the accountant would make the credit to the customary account.

The readjusting entry method may also be used for accrued expenses. The adjusting entry is exactly reversed, then when payment is made the debit is made to an expense account. The adjusting entry for accrued property taxes of $115 on December 31 would be made as follows:

Dec. 31	Property Taxes	115	
	Accrued Property Taxes		115
	To record property taxes for one-half year		

The readjusting entry would be:

Jan. 1	Accrued Property Taxes	115	
	Property Taxes		115
	To reverse adjusting entry		

If the taxes were paid on June 30, the entire amount would be debited to Property Taxes, no split-up of the amount being necessary.

If prepaid expenses are recorded in asset accounts and unearned revenue in unearned revenue accounts, readjusting entries must not be made. But if it is the policy of the enterprise to record a prepaid item, like prepaid insurance, in the expense account, a readjusting entry is required in order to keep all the debits in one account. For example, an insurance premium of $60 was paid on December 1 for one year, and the debit was made to the Insurance Expense account. The adjusting entry on December 31 would be a debit of $55 to Prepaid Insurance and a credit of $55 to Insurance Expense. Since this enterprise is debiting new insurance payments to the Insurance Expense account, insurance will be recorded in two accounts, the Insurance Expense account and the Prepaid Insurance account. To avoid this, a readjusting entry is made on January 1 to debit Insurance Expense $55 and credit Prepaid Insurance $55.

To summarize, we may state that *readjusting entries may or may not be made to reverse adjusting entries for accruals, that they are not made when prepaid items are recorded in asset or unearned revenue accounts, but are always made when prepaid items are recorded in expense or revenue accounts.*

Order of Work. To avoid possible confusion it is desirable to summarize at this time the order in which the recording is done:

Entries are made first in the books of original entry.

The entries are posted to the ledger accounts.

At the end of the period a trial balance is taken, entered on the work sheet, and the work sheet is made up.

The balance sheet and the statement of profit and loss are prepared.

The adjusting and closing entries are made in the journal and posted to the ledger.

The accounts are ruled and a postclosing trial balance is taken.

Readjusting entries may be made.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Define: preclosing trial balance; adjusted trial balance; postclosing trial balance.
2. Does the trial balance prove the mechanical accuracy of the work?
3. What accounts are contained in a postclosing trial balance?
4. What is the purpose of the work sheet?
5. Must a work sheet always be used?
6. What columns would you include if you were making up a work sheet form?
7. Explain clearly what would be entered in each of the columns of the work sheet.
8. How would you determine the profit from the work sheet?
9. Would the total of the Balance Sheet columns be the same as the total of the assets as presented on the balance sheet?
10. What do you do with the balance of the owner's personal account listed in the Trial Balance columns of the work sheet?
11. What are interim statements?
12. What are the advantages of the work sheet?
13. Of what advantage is the work sheet in preparing interim statements?

14. When the work-sheet method is used, what is the source of the debits and credits for the adjusting and closing entries on the books?

15. Explain clearly how you would make up a work sheet from the following data:

Cash	$5,000	
Equipment	2,000	
Inventory	1,500	
Purchases	10,000	
Sales		$ 9,500
Expenses	200	
E. T. Wilson, Proprietorship		9,200
	$18,700	$18,700

Adjusting Information:

Inventory	$3,000
Unpaid Expenses	50

16. What is a readjusting entry?

17. When insurance was purchased the debit was to Prepaid Insurance. After the adjusting entry is made, is a readjusting entry required?

18. If the debit in question 17 were made to Insurance Expense, would a readjusting entry be required after the adjusting entry was made? Explain and illustrate.

19. On December 31 an entry was made debiting Office Salary Expense $30 and crediting Accrued Office Salaries Payable $30. On January 4 the office salaries for the week ending January 4 were paid. The amount paid on January 4 was $70. If a readjusting entry had not been made, give the entry to record the payment of $70 on January 4. Make a readjusting entry on January 1 to cover this transaction. If a readjusting entry had been made, give the entry to record the payment of $70 on January 4.

20. If you did not use the readjusting entry method, how would you record interest on the following mortage receivable? The mortage is for $10,000. Interest of 6 per cent is received on December 31 of each year. The books are adjusted and closed each month. If the readjusting entry method is used, give the adjusting and readjusting entries for January, February, and March.

21. Rent of $300 was collected on December 1 for December, January, and February. If this rent was credited to Unearned Rent Revenue, would you make a readjusting entry to reverse the adjusting entry made on December 31?

LABORATORY PROBLEMS

1.

Wm. Wilson
Trial Balance
June 30, 1944

Cash	$ 4,000	
Accounts Receivable	12,000	
Inventory, Jan. 1	18,000	
Office Furniture and Fixtures	2,000	
Accounts Payable		$ 6,000
Notes Payable		8,000
Wm. Wilson, Proprietorship		13,540
Sales		35,000
Purchases	22,000	
Prepaid Insurance	240	
Delivery Expenses	300	
Salesmen's Salaries	3,000	
Office Salaries	700	
Office Supplies	300	
	$62,540	$62,540

Adjusting information, June 30, 1944:

Inventory, June 30, $16,000
Depreciation of furniture and fixtures, $75
Bad debts, $150
Office supplies on hand, $175
Insurance expense for the period, $20
Unpaid salaries of salesmen, $100
Unpaid interest on notes payable, $40

Required: Work sheet.

2. A. Nordstrom

Trial Balance
December 31, 1944

Cash	$ 6,000	
Notes Receivable	2,000	
Accounts Receivable	15,000	
Inventory, Jan. 1, 1944	20,000	
Prepaid Insurance	600	
Land	20,000	
Buildings and Fixtures	60,000	
Reserve for Depreciation of Buildings and Fixtures		$ 7,500
Notes Payable		7,200
A. Nordstrom, Proprietorship		125,000
Sales		100,000
Sales Discounts	1,800	
Purchases	80,000	
Purchase Returns and Allowances		500
Advertising Expenses	3,000	
Sundry Selling Expenses	18,000	
Rent Expense	2,400	
Sundry General and Administrative Expenses	12,000	
Purchase Discounts		200
Interest Expense	100	
Interest Revenue		500
	$240,900	$240,900

Adjusting information, December 31, 1944:

Inventory, December 31, 1944, $37,000
Prepaid insurance on December 31, 1944, $500
Depreciation, 5 per cent of the cost of the buildings and fixtures
Unpaid interest on notes payable, $250
Unpaid sundry selling expenses, $200
Interest uncollected but earned on notes receivable, $100
Bad debts, estimated to be 1 per cent of sales

Required: Work sheet.

3. W. T. Gregg

Trial Balance
December 31, 1938

Cash	$ 500	
Notes Receivable	1,000	
Accounts Receivable	800	
Reserve for Doubtful Accounts		$ 100
Inventory, Jan. 1, 1938	3,000	
Furniture and Fixtures	1,200	

Reserve for Depreciation of Furniture and Fixtures		200
Accounts Payable		600
W. T. Gregg, Proprietorship		3,300
Sales		15,000
Sales Returns and Allowances	200	
Sales Discounts	50	
Purchases	10,000	
Purchase Returns and Allowances		200
Sales Salary Expense	1,200	
Advertising Expenses	400	
Rent Expense	900	
Office Expense	200	
Interest Revenue		50
	$19,450	$19,450

Adjusting information, December 31, 1938:

Inventory, December 31, 1938, $1,800
Accrued interest on notes receivable, $30
Unpaid office salaries, $50
Unpaid rent, $75
Depreciation of furniture and fixtures, $100
Bad debts, estimated to be 1 per cent of sales

Required: Work sheet.

4. R. S. Williams

Trial Balance
December 31, 1944

Cash	$ 15,000	
Notes Receivable	3,000	
Accounts Receivable	5,000	
Inventory, Jan. 1, 1944	12,000	
Prepaid Insurance	400	
Stationery and Office Supplies	800	
Land	10,000	
Buildings	19,000	
Office Equipment	3,000	
Notes Payable		$ 3,000
Accounts Payable		8,000
Mortgage Payable		9,000
R. S. Williams, Proprietorship		36,800
Sales		80,000
Sales Discounts	1,500	
Sales Returns and Allowances	2,200	
Purchases	50,000	
Freight In	2,000	
Purchase Returns and Allowances		1,100
Sales Salaries	9,000	
Advertising Expenses	3,000	
Traveling Expenses	600	
Freight Out	1,200	
Telephone and Telegraph Expense	200	
Interest Expense	300	
Rent Revenue		200
Purchase Discounts		100
	$138,200	$138,200

Adjusting information for the year ended December 31, 1944:

Inventory, December 31, 1944, $13,000
Depreciation of buildings, 5 per cent of the cost of the buildings
Depreciation of office equipment, 10 per cent of the cost of the equipment
Insurance expense for the year, $300
Stationery and office supplies on hand, $300
Interest accrued on notes payable, $120
Interest of 4 per cent for one year was unpaid on the mortgage

Required: Work sheet.

5. A. Barto

Trial Balance
December 31, 1942

Cash	$ 15,000	
Notes Receivable	3,000	
Accounts Receivable	10,000	
Reserve for Doubtful Accounts		$ 300
Inventory, Jan. 1, 1942	10,000	
Prepaid Insurance	300	
Office Supplies	1,000	
Sales Supplies	1,400	
Delivery Equipment	1,500	
Notes Payable		10,000
Accounts Payable		15,000
Unearned Rent		90
A. Barto, Proprietorship		24,810
Sales		70,000
Purchases	60,400	
Purchase Returns and Allowances		100
Freight In	3,000	
Sales Salaries	4,800	
Advertising Expenses	2,400	
Delivery Expenses	3,600	
Sundry Selling Expenses	400	
Office Salaries	3,600	
Purchase Discounts		400
Interest Expense	300	
	$120,700	$120,700

Adjusting information for the year ended December 31, 1942:

Inventory, December 31, 1942, $15,000
Bad debts, estimated to be 0.5 per cent of sales
The prepaid insurance on December 31 was $100
Sales supplies on hand, $600
Office supplies used, $200.
Accrued interest revenue, 6 per cent on notes receivable for one-half year
Depreciation of delivery equipment, $150
Accrued interest expense, $170
The unearned rent on December 31 was $40

Required: (a) Work sheet.
(b) On the other side of your work sheet make the adjusting and closing journal entries.

6.

Wilcox Bros. Inc.

Trial Balance
December 31, 1938

Cash	$ 5,000	
Accounts Receivable	41,000	
Reserve for Doubtful Accounts		$ 800
Inventory, Jan. 1, 1938	18,000	
Prepaid Rent	4,800	
Prepaid Insurance	800	
Furniture and Fixtures	3,000	
Reserve for Depreciation of Furniture and Fixtures		500
Notes Payable		10,000
Accounts Payable		25,000
Capital Stock		25,000
Surplus		14,950
Sales		138,000
Sales Returns and Allowances	3,000	
Sales Discounts	2,000	
Purchases	110,000	
Purchase Returns and Allowances		2,000
Freight and Drayage In	2,000	
Salesmen's Salaries	4,000	
Advertising Expenses	6,500	
Delivery Expenses	1,500	
Sundry Selling Expenses	2,500	
Office Salaries	4,000	
Executive Expenses	6,000	
Tax Expense	300	
Sundry Office Expenses	3,000	
Heat, Light, and Power	400	
Commissions Earned		1,300
Purchase Discounts		500
Interest Expense	250	
	$218,050	$218,050

Adjusting information for the year ended December 31, 1938:

Inventory, December 31, 1938, $25,000
Depreciation of furniture and fixtures, 25 per cent of cost
Bad debts, estimated to be 0.5 per cent of sales
The prepaid rent on December 31, $1,200
Insurance unexpired on December 31, 1938, $300
Taxes unpaid on December 31, $200

(a) Make up a work sheet.
(b) Make up a balance sheet and statement of profit and loss.

7. Milton Supply Co.

Trial Balance
December 31, 1944

Cash	$ 20,000	
Accounts Receivable	35,000	
Reserve for Doubtful Accounts		$ 500
Inventory, Jan. 1, 1944	19,000	
Advances to Salesmen	400	
Prepaid Insurance	600	
Furniture and Fixtures	4,500	
Reserve for Depreciation of Furniture and Fixtures		1,400
Delivery Equipment	6,500	
Reserve for Depreciation of Delivery Equipment		1,500
Accounts Payable		13,000
Capital Stock		35,000
Surplus		30,300
Sales		175,000
Sales Returns and Allowances	4,500	
Sales Discounts	2,500	
Purchases	120,000	
Purchase Returns and Allowances		2,000
Freight In	4,000	
Sales Salaries	12,000	
Advertising Expenses	2,400	
Salesmen's Traveling Expenses	3,000	
Salesmen's Commissions	1,500	
Delivery Expenses	2,000	
Office Salaries	6,000	
Sundry Office Expenses	1,200	
Rent Expense	3,600	
Telephone and Telegraph	100	
Interest Expense	400	
Purchase Discounts		500
Executive Salaries and Expenses	10,000	
	$259,200	$259,200

Adjusting information, December 31, 1944:

Bad debts, estimated to be 0.5 per cent of sales
Depreciation of furniture and fixtures, estimated life 10 years, no salvage value
Depreciation of delivery equipment, estimated life 4 years, no salvage value
Unexpired insurance, $400
Salesmen's expense accounts totaling $850 were approved but unrecorded on December 31
Inventory, $22,000

Required: Work sheet.

8. H. Morgan

Trial Balance
December 31, 1940

Cash	$ 18,500	
Accounts Receivable	30,400	
Notes Receivable	12,000	
Inventory	55,000	
Buildings	50,000	
Delivery Equipment	4,500	
Land	20,000	
Notes Payable		$ 15,000
Accounts Payable		25,000
Mortgage Payable		20,000
H. Morgan, Proprietorship		143,400
Sales		130,000
Purchases	120,000	
Selling Expenses	10,600	
Sundry General and Administrative Expenses	6,400	
Insurance Expense	1,200	
Advertising Expenses	4,800	
	$333,400	$333,400

Adjusting information for the year ended December 31, 1940:

Inventory, December 31, 1940, $60,300
Depreciation of buildings, 4 per cent of cost
Depreciation of delivery equipment, 25 per cent of cost
Bad debts, 0.5 per cent of sales
On December 31 unexpired insurance of $400 should be recorded
The prepaid advertising on December 31 was $800
Interest at 5 per cent was unpaid on mortgage for one year
Interest at 6 per cent for one year was uncollected on the notes receivable

Required: Work sheet.

9. (a) Make a journal entry as of July 1 to record the following data, and post to the general ledger T accounts:

Cash, $5,263.25
Accounts Receivable, $9,238.40
Reserve for Doubtful Accounts, $643.10
Inventory, $9,595.25
Land, $3,000.00
Buildings and Equipment, $18,500.00
Reserve for Depreciation of Buildings and Equipment, $4,500.00
Accounts Payable, $6,800.00
J. E. Newton Proprietorship, $33,653.80

During July entries were made on page 1 of each of the following special journals, from which you are to post to the general ledger accounts:

Sales journal, total of Sales column, $6,475.60
Purchase journal, total of Purchases column, $8,243.60
Cash receipts journal:
  Total of the Cash column, $10,578.50
  Total of the Sales Discounts column, $93.25

Total of Accounts Receivable column, $5,408.50
Total of General column, $5,263.25 [This was the amount of cash entered on July 1.]
Cash disbursements journal:
Total of the Cash column, $4,821.30
Total of the Purchase Discounts column, $58.30
Total of the Accounts Payable column, $3,585.60
Total of the Freight In column, $383.10
The amounts entered in the General column were.
Sales Salaries, $425.50
Office Salaries, $265.00
Advertising Expenses, $125
Sundry Expenses, $95.40

Make entries for the following in the general journal and post to the general ledger accounts:

July 10 Merchandise was returned by A. B. Clark to whom credit memo No. 1 for $25.20 was issued.
15 A 60-day, 5 per cent note was received from A. L. Glinn in settlement of his balance of $115.25.
23 Merchandise was returned to Harper Bros. from whom credit of $85 was received.
29 A 90-day, 4 per cent note for $175 was given to Hiler Supply Co. in settlement of the balance of their account.

(b) Take a trial balance and make up a work sheet as of July 31, using the following data in making the adjusting entries:

Inventory, July 31, $13,215.20.
Bad debts, 0.5 per cent of sales.
Depreciation of buildings and equipment, 0.5 per cent of cost.
Unpaid sales salaries, $45.

(c) Make up a balance sheet as of July 31 and a statement of profit and loss for July.
(d) Make the adjusting and closing entries in the journal.

10. Assuming that the readjusting entry method is followed, make the readjusting journal entries that would be made, if any, for each of the following adjusting entries:

	Adjusting Entry Debits		*Adjusting Entry Credits*	
(a)	Prepaid Insurance	$ 50	Insurance Expense	$ 50
(b)	Accrued Interest Receivable	75	Interest Revenue	75
(c)	Sales Salary Expense	50	Accrued Sales Salaries	50
(d)	Office Supply Expense	35	Office Supplies	35
(e)	Depreciation of Office Equipment	40	Reserve for Depreciation of Office Equipment	40
(f)	Accrued Rent Receivable	150	Rent Revenue	150
(g)	Unearned Subscriptions	1,200	Subscription Revenue	1,200
(h)	Interest Expense	23	Accrued Interest Payable	23
(i)	Bad Debts	96	Reserve for Doubtful Accounts	96
(j)	Sales Supply Expense	55	Sales Supplies	55
(k)	Delivery Supplies	125	Delivery Expenses	125
(l)	Office Salary Expense	175	Accrued Office Salaries	175

11. Do Practice Set 1, Part I, (a) to (g).

CHAPTER XIV. PROMISSORY NOTES. BILLS OF EXCHANGE. INTEREST

Promissory Notes. Although note transactions are not common in this country, except with those enterprises which sell goods on the installment plan, most business enterprises will at some time or another accept a note from a customer, or give a note to a creditor. Consequently, anyone interested in knowing the elements of accounting must know how to record such transactions.

A promissory note is a document made out somewhat like the following:

$1,000	New York, N. Y., Jan. 5, 1944
Ninety days after date I promise to pay to the order of A. B. Case, One thousand and no/100 .... Dollars with interest at 8%.	
Payable at the First National Bank.	
Value received	*E. B. Black*

E. B. Black, who signed this note, is both the *maker* and *payer* of this note, and A. B. Case is the *payee.*

A promissory note is usually made out in such a way that it meets the requirements of the Uniform Negotiable Instruments Act, which contains the following definition of a negotiable note:

A negotiable promissory note, within the meaning of this act, is an unconditional promise in writing, made by one person to another, signed by the maker, engaging to pay on demand or at a fixed or determinable future time, a certain sum in money, to order or bearer. A note which meets these requirements is considered to be a negotiable instrument.

Bills of Exchange. A bill of exchange is defined in the Uniform Negotiable Instruments Act as follows:

A bill of exchange is an unconditional order in writing by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand or at a fixed or determinable future time a certain sum in money to order or bearer.

Types of bills of exchange are: (1) Bank checks, and (2) Commercial drafts.

The bank check may be of the following types:

The ordinary check
The cashier's check
The certified check.

Since the different types of bank checks are recorded as cash, these checks will be discussed in Chapter XXI.

A draft is a commercial bill of exchange which is used frequently in foreign transactions and occasionally in domestic transactions. The following is an illustration of a draft:

$500.00 Chicago, Ill., May 1, 1939

On..........August 1, 1939...........Pay to the order of

........Myself..

Five hundred and no/100.........................Dollars

Value received, and
charge to the account of

To: T. A. Balch
502 E. Wacker Drive
Chicago, Illinois

B. A. Brain

B. A. Brain, who signed this draft, is both the *drawer* and *payee*, and T. A. Balch, to whom it is addressed, is the *drawee* and *payer*.

This draft, made out by B. A. Brain and sent to T. A. Balch, has no legal standing until accepted by T. A. Balch. A draft is accepted when the payer writes on the face of the draft the word *Accepted*, the date, and his signature. If Mr. Balch accepted the draft on May 3, he would probably write across the face of the draft: *Accepted, May 3, 1939, T. A. Balch.* This is the usual method of accepting a draft although there are other legal methods. When accepted and returned to the drawer or his agent the draft becomes a binding legal instrument according to the terms of the draft, and is called an *acceptance*.

Bills of exchange may be made out for various periods of time. Some are *sight drafts*, and some are *time drafts*. Sight drafts contain a clause like the following: "At sight pay to the order of. . . ." They are payable when accepted, which is usually on presentation.

The date on which a time draft matures is either stated, or the draft is made out for a certain number of days "after date," usually for 30, 60, or 90 days, exclusive of the days of grace.

The *trade acceptance* is a draft made out in connection with a business transaction for goods. A *banker's acceptance* is one addressed to a bank as payee, and when accepted by the bank becomes a banker's acceptance.

Bankers' acceptances are widely used in foreign trade transactions. They are considered high-grade commercial paper and as such may be readily sold. If a local enterprise sold goods to a purchaser in London, it would probably require the buyer to arrange to have a bank accept the draft that the seller would draw. The local seller would address the draft to the bank, and when accepted by the bank the draft would become a banker's acceptance.

Since promissory notes and bills of exchange are negotiable instruments, the holder of the instrument can transfer his title to it by indorsement and delivery. The customary indorsement is the *indorsement in blank*, which is made when the holder signs his name to the note or bill, usually on the back of it. The indorser can be held liable by any subsequent indorser or holder for the payment of the note or draft on default of payment by the payee. Because an indorsement in blank makes a note payable to bearer, that is, to the holder of the note, an *indorsement in full* may be made. This indorsement specifies the person to whom the payment is to be made. An indorsement in full is made as follows:

Pay to the order of Wm. Jones,

A. S. White

Other more unusual indorsements are the qualified and the restrictive indorsements. In making the *qualified indorsement* the words "without recourse" are written above the signature of the indorser. This indorsement does not affect the negotiability of the instrument but releases the indorser from liability for payment. The *restrictive indorsement* limits the negotiability of the instrument, and is made by indorsing the note somewhat as follows: "Pay to Wm. Hume only," or "Pay to Western City Bank for collection." This ends all further negotiability of the bill or note. A form of restrictive and qualified indorsement is called an *accommodation indorsement*. The usual example of this indorsement is one which includes the words "For identification only." The indorser simply identifies the person.

The Time Element in Notes. A note may be payable on sight, at a stated future date, or a certain number of days "after date." The accountant will frequently find it necessary to make computations to determine the maturity of the note, or to determine the number of days that must expire before maturity. Notes that mature at some date subsequent to the date of the note contain either the date of maturity or a clause like one of the following:

90 days after date I promise to pay . . .

3 months after date I promise to pay . . .

A note dated June 2 which contains the clause "90 days after date I promise to pay . . ." will mature on August 31. The date is determined as follows:

After June 2, there are	28 days in June
In July there are	31 days
Total	59 days

After July 31, the note will have 31 days to run until maturity, hence, it will mature on August 31.

Frequently, the notes receivable of customers are discounted at the bank. That is, the bank lends money on the note, deducting its interest in advance. When this is done, the bank will usually drop the first day and include the last day in determining the period for which the note will be discounted. A note receivable, maturing on June 2, which was discounted on March 5, will be discounted for 89 days if either the first day or the last day is not counted. This computation is made as follows: If March 5 is not counted, there are 26 days in March after March 5. The total number of days will be:

In March	26 days
In April	30 days
In May	31 days
In June	2 days
	89 days

If the preceding note were a 90-day note, dated March 4, and discounted March 5, the number of days for which the note would be discounted could be obtained by subtracting March 4 from March 5, obtaining 1 day, which deducted from 90 would leave 89 days. This method of making the computation may be used when either the first or the last day is not counted by the bank in making the computation. A 60-day note dated July 5 and discounted July 25 would be discounted for 40 days. If the bank counts both the day on which the note is discounted and the last day (the day of maturity), the period will be one day longer.

When a note contains a clause such as "3 months after date I promise to pay . . . ," the maturity is on the same date 3 months later. A note made out on February 18 for a period of 3 months would mature May 18.

Interest and Discount. Economists have written much about interest. They have attempted to justify interest and explain how interest rates are determined. Some have emphasized theories based upon the productivity of capital; some have emphasized the time element to the exclusion of all others; others have combined both the productivity of capital and the time element. To a business enterprise, interest is simply the price paid for the use of money or credit; and *discount* is the term ordinarily used for interest deducted in advance. This type of discount is not true discount. True

discount is the difference between a sum due in the future and its present value. But under the ordinary commercial usage of the term interest deducted in advance from the amount due at maturity is considered to be discount.

When a person borrows money, some banks advance the full amount of the loan. Others deduct the interest in advance. If $1,000 were borrowed for 60 days with interest at 6 per cent and the borrower received $1,000, the interest to be paid at maturity of the note would be $10, computed as follows:

$$1000 \times \frac{60}{360} \times \frac{6}{100} = 10.$$

Instead of advancing $1,000, most banks would advance only $990. They compute the interest on the amount due at maturity and deduct it from that amount. Since the bank will receive $1,000, it earns $10 on $990, a rate slightly higher than 6 per cent. When the borrower received the $990, he would record the $10 as interest or discount expense, or as prepaid interest or prepaid discount. Although the term prepaid is used, the interest is not prepaid; it is prededucted.

Computation of Interest. On examining the preceding computation, the reader will observe that 6 per cent interest on $1,000 for 60 days is $10, the amount that would be obtained by dividing $1,000 by 100, or what is the same thing, by moving the decimal point two places to the left. Based upon a 360-day year, which is ordinarily used in such computations, 6 per cent interest on any amount for 60 days may be obtained by dividing the amount by 100. For example, 6 per cent on $1,500 for 60 days is $15; on $600 it is $6, etc. This rule, known as the 6 per cent rule, is very useful in interest computations.

Interest on $1,200 for 60 days at 9 per cent would be $18, computed as follows:

Interest on $12 at 6 per cent for 60 days	$12.00
9 per cent is 50 per cent or ½ greater than 6 percent, therefore $6 will be added	6.00
	$18.00

Interest on $800 for 90 days at 8 per cent would be $16, computed as follows:

Interest on $800 at 6 per cent for 60 days	$8.00
At 6 per cent for 90 days the interest would be increased 50 per cent or	4.00
Interest at 6 per cent for 90 days	$12.00
8 per cent is ⅓ greater than 6 per cent or	4.00
	$16.00

The computation of the interest on \$800 for 90 days at 8 per cent might, of course, have been made by the usual simple interest computation:

$$800 \times \frac{90}{360} \times \frac{8}{100} = 16.$$

Interest on Notes Payable. It has been stated that, when the borrower issues his note containing his written promise to pay a sum of money, he may receive:

The amount stated in the note and pay the interest at maturity.

The amount stated in the note less the discount and pay only the face of the note at maturity.

In the first case, he will record the interest as expense when it is paid, or, if the end of an accounting period intervenes before it is paid, he will accrue the interest to that date. In the second case, he will record the interest or discount when the note transaction occurred. To illustrate, let us consider the following example. Mr. Jones received \$1,000 from the First National Bank for which he gave his 3-month note bearing 6 per cent interest. The entry on receipt of the money would be a debit to Cash and a credit to Notes Payable, and would have the effect of the following journal entry:

Jan.	6	Cash Notes Payable To record a 6%, \$1,000 note, payable to First National Bank, maturity April 6		1,000	 1,000

At the end of 3 months, when the note is paid, the entry would be a debit of \$1,000 to Notes Payable, a debit of \$15 to Interest Expense, and a credit of \$1,015 to Cash. The entry would be made in the cash disbursements book, but it would be the equivalent of the following journal entry:

April	6	Notes Payable Interest Expense Cash To record payment of a note of Jan. 6, held by First National Bank		1,000 15	 1,015

If, however, the bank deducted its interest in advance, Mr. Jones would receive the face value of the note less 6 per cent for 3 months, or \$985. The entry in journal form would be:

Jan.	6	Cash Interest Expense Notes Payable To record a $1,000 note issued to First National Bank, maturity April 6	985 15	 1,000

When the note is paid the entry in journal form would be:

April	6	Notes Payable Cash To record payment of note of Jan. 6 to First National Bank	1,000	 1,000

The reader will perceive that if the transactions occur wholly within an accounting period no problem of interest accrual arises. Both methods give the same results. But should the end of an accounting period intervene before the note is paid, some adjustments should be made. In the first case, no interest was recorded; consequently, at the end of an accounting period it would be necessary to determine the accrued interest, which can readily be done. In the second case, the entire amount of the interest was deducted by the bank, so this amount would be recorded on the books of the enterprise. Since the money will be used in future periods, part of the interest should apply to such periods.

To illustrate, suppose a 90-day, 6 per cent, $1,000 note payable is issued on December 1. If $1,000 is received from the bank, interest for 30 days would be accrued on December 31. This amount would be $5, and is the interest expense that should be recorded on December 31.

If the bank deducted interest at 6 per cent for 90 days, only $985 would be received. Interest expense or prepaid interest of $15 would be recorded, and this $15 should be distributed to the periods in which the borrowed funds are used. At the end of December, $5 should be recorded as expense and $10 as Interest Deducted in Advance. *Business enterprises frequently disregard the deferred interest or discount deducted in advance, considering the total amount as expense.* Ordinarily the amounts are so small that this practice is satisfactory.

Partial Payments. When partial payments are made upon interest-bearing obligations, the usual rule that is followed, unless there is an agreement or custom of the trade to the contrary, is known as the *United States rule.*

Under this rule the payment is first applied to the interest due, and the balance is then applied to the principal. If the payment is less than the interest, the unpaid interest must not be taken to augment the principal. Interest continues on the former principal until the payments, taken to-

gether, exceed the interest due. The amount of any balance remaining after the payment has been applied to the interest is deducted from the principal. This method is now illustrated.

On January 1, 1936, Mr. Williams borrowed $10,000 at 6 per cent interest. He made payments of $4,000, $3,000, and $3,500 on June 30, 1936, December 31, 1936, and February 1, 1937, respectively. Mr. Williams wanted to know the status of this obligation after he made the payment on February 1, 1937. As shown by the following computation, based upon the United States rule, Mr. Williams owed $6.45.

Jan. 1, 1936	Loan		$10,000.00
June 30, 1936	Payment	$4,000.00	
	Interest	300.00	3,700.00
			$ 6,300.00
Dec. 31, 1936	Payment	$3,000.00	
	Interest	189.00	2,811.00
			$ 3,489.00
Feb. 1, 1937	Payment	$3,500.00	
	Interest	17.45	3,482.55
	Balance Due		$ 6.45

Under what is known as the *mercantile rule* the computation is different. This rule is used at times to conform to the custom of the parties or to the usage of the trade in which they are engaged. It is more favorable to the debtor. When this rule is used, interest is computed upon the debt for the entire period, and interest is credited upon each payment from the time it is received until the maturity of the loan.

If the computation is made under the mercantile rule, it is found that, instead of owing $6.45, Mr. Williams made an overpayment of $5:

Jan. 1, 1936	Loan			$10,000.00
	Interest on $10,000.00 for 1 year and 1 month at 6%			650.00
				$10,650.00
June 30, 1936	Payment	$4,000.00		
Dec. 31, 1936	Payment	3,000.00		
Feb. 1, 1937	Payment	3,500.00	$10,500.00	
Feb. 1, 1937	Interest on $4,000.00 from June 30, 1936, to Feb. 1, 1937 (7 months)		140.00	
	Interest on $3,000.00 from Dec. 31, 1936, to Feb. 1, 1937 (1 month)		15.00	10,655.00
	Balance *Overpaid*			$ 5.00

If the amounts are large, and the period of time long, there may be a substantial difference in the amounts due. When estates are liquidated over long periods of time the difference may be considerable.

The procedure under the two rules may be briefly summarized as follows:

Under the *United States rule*, interest is computed for the time between payments. The interest is deducted from each payment and the balance is deducted from the principal. The new principal is used for the next interest computation.

Under the *mercantile rule*, interest for the entire period is added to the principal, and interest is credited on each payment for the entire time between its receipt and the final settlement.

The difference in favor of the debtor under the merchantile rule is explained by the fact that under this rule credit is received for interest on the entire payment. The effect of the United States rule is to eliminate interest on the portion of the payments applied to interest. If we refer back to the illustration, it will be seen that of the first payment of $4,000, $300 was applied under the United States rule to the interest; and of the second payment of $3,000, $189 was applied to cover the interest due. Interest on these payments at 6 per cent to February 1, 1937, is:

$$6/100 \times 300 \times 7/12 = \$10.50$$
$$6/100 \times 189 \times 1/12 = \underline{\quad .95}$$
$$\$11.45$$

The United States rule results in a balance due of $6.45, and the mercantile rule in an overpayment of $5.00. The difference is $11.45.

Notes Receivable Discounted. The holder of notes receivable may have these notes discounted by his bank or by a finance company. When he does this, he indorses the notes and delivers them to the bank or finance company. In return he receives cash, or a credit is made to his deposit account. To illustrate, let us consider what happens when Mr. E. Hoard takes a $1,000, 60-day, noninterest-bearing note to the bank to be discounted on the day he receives the note. The bank would deduct interest at 6 per cent for 60 days, that is, $10. Mr. Hoard would receive $990. The entry on Mr. Hoard's books would be made in the cash receipts journal and would be the equivalent of the following journal entry:

June	8	Cash		990	
		Interest Expense		10	
		Notes Receivable Discounted			1,000
		To record 60-day, 6% note of A. B. Flinn, dated June 8 and discounted June 8			

The credit is made to the Notes Receivable Discounted account instead of to Notes Receivable, because the party discounting the note is liable as an indorser for the $1,000 plus interest if the maker of the note fails to pay his obligation at maturity.

The Notes Receivable Discounted account is generally deducted from the Notes Receivable on the balance sheet, thus:

Notes Receivable	$5,000	
Less: Notes Receivable Discounted	1,000	$4,000

Sometimes the amount of the Notes Receivable Discounted is also noted on the liability side of the balance sheet but is not included in the totals. Examples of discount transactions will now be given.

Computation and Recording of Interest in Notes Receivable Discounted Transactions. Examples are presented in this section to illustrate the computation of interest and discount on notes receivable transactions, and the methods of recording such transactions are also explained.

When notes are discounted, computations are made to determine:

The amount the bank will receive.

The number of days for which the bank will discount the note.

The bank discount.

The net proceeds, that is, the amount that will be received by the person who discounts the note. This amount is obtained by deducting the bank discount from the amount the bank will receive when the note is paid.

Example 1. On March 3 a merchant received a $500, 60-day non-interest-bearing note. On the same day he took this note to the bank, which discounted it at 6 per cent. The merchant would receive $495 computed as follows:

$$500 \times \frac{6}{100} \times \frac{60}{360} = 5.$$
$$500 - 5 = 495.$$

The entry in journal form would be:

March	3	Cash		495	
		Interest Expense		5	
		Notes Receivable Discounted			500

Now a problem in bookkeeping technique arises. It will be recalled that under sound bookkeeping procedure all cash received must be entered in the cash receipts journal. For this reason a general journal entry alone is not sufficient. The entry may be made in the general journal with a check mark placed in the Reference column opposite Cash, and the cost entered in the cash receipts journal with a check mark placed in the Reference column. For the preceding transaction the entries would be:

General Journal

March	3	Cash	√	495	
		Interest Expense		5	
		Notes Receivable Discounted			500
		Wm. Jones, 60-day note of March 3, discounted at First National Bank			

Cash Receipts Journal

Date		Account Credited	Explanation	R	General	Cash
March	3	Notes Receivable Discounted	Wm. Jones, 60-day note	√	495	495

Or the entire transaction may be entered in the cash receipts journal only, and, if there is no column headed Interest Expense, the interest may be entered in the General column in red ink or in black ink circled or in parentheses, thus:

Cash Receipts Journal

Date		Account Credited	Explanation	R	General	Cash
March	3	Notes Receivable Discounted	Jones's 60-day note discounted		500	
		Interest Expense			(5)	495

The amount of the interest is entered in the General column in red ink, or in black ink circled, to show that the amount is a debit entered in a credit column. When the General column is totaled, the red ink or circled figures would be deducted from the black ink figures to obtain the total. The red ink amounts would be posted as debits to Interest Expense.

Example 2. The ABC Company discounted a 90-day, 6 per cent note receivable of $1,000. The note was received from A. Rud on June 8. On this date the ABC Company discounted the note at the bank at 8 per cent.

When the note is paid, the bank will receive the face of the note, $1,000, plus interest at 6 per cent for the full period of 90 days. The interest is $15 computed as follows:

$$1{,}000 \times \frac{6}{100} \times \frac{90}{360} = 15$$

Thus, the bank will receive $1,000 plus $15, or $1,015. Since the bank received the note on the day it was made out, it will discount the note for the entire 90 days. The bank discount is $20.30 computed as follows:

$$1{,}015 \times \frac{8}{100} \times \frac{90}{360} = 20.30$$

The amount received is $1,015 minus $20.30, or $994.70, and the discount is $1,000 less $994.70, or $5.30. This transaction may be entered in the cash receipts journal as follows:

Cash Receipts Journal

Date		Account Credited	Explanation	R	General		Cash	
June	8	Notes Receivable Discounted	A. Rud note of May 6, discounted		1,000	00		
		Interest Expense	at 8%		(5	30)	994	70

Example 3. On January 4, the XYZ Company received a 90-day, 6 per cent note for $500 from Wm. Winters. On January 24 it discounted the note at its bank at 6 per cent. On payment of the note by the maker, the bank will receive the face of the note plus interest for the entire period. The interest would be computed as follows:

$$500 \times \frac{6}{100} \times \frac{90}{360} = 7.50$$

The bank will receive $507.50 but must wait 70 days for its money. This number of days is determined by finding the number of days the XYZ Company held the note, and deducting this number from 90. The number of days from January 4 to January 24 is 20, and 20 deducted from 90 leaves 70. It has been explained that this computation is correct if the bank drops either the first or the last day in determining the number of days. If not, the period would be one day longer. The bank discount is:

$$507.50 \times \frac{6}{100} \times \frac{70}{360} = 5.92$$

The XYZ Company will receive $507.50 less $5.92, or $501.58. The transaction will be entered as follows in the cash receipts journal:

Cash Receipts Journal

Date		Account Credited	Explanation	R	General		Cash	
Jan.	24	Notes Receivable Discounted	Wm. Winter's note dated, Jan. 4		500	00		
		Interest Revenue			1	58	501	58

Accrued Interest on Notes Receivable Discounted. The end of an accounting period may intervene between the time a note is received and the time it is discounted. If this happens, the problem of recording notes receivable discounted is still more compl'cated. A 3-month, 6 per cent note for $1,000 received on December 1 would mature on March 1. On December 31, the following entry would be made for the accrued interest:

Dec.	31	Accrued Interest Receivable,		5	00		
		Interest Revenue				5	00
		To record interest for 1 month on $1,000, 6% note received December 1					

If this note is discounted at 8 per cent on February 9, the note will be discounted for 20 days. The bank will receive $1,015. Therefore, the discount will be:

$$1{,}015 \times \frac{8}{100} \times \frac{20}{360} = 4.51$$

The holder of the note will receive $1,015 minus $4.51 or $1,010.49.

If a readjusting entry had not been made, $5 of the credit of $10.49 would be credited to the Accrued Interest Receivable account. The balance of $5.49 would be credited to Interest Revenue.

If a readjusting entry had been made on January 1, the entry would have been:

Jan. 1	Interest Revenue	$5	
	Accrued Interest Receivable .		$5
	To reverse adjusting entry		

This entry would have exactly reversed the adjusting entry; consequently the entire $10.49 would be credited to Interest Revenue.

If, instead of a credit of $10.49, the credit were less than the $5 balance in either the Accrued Interest Receivable or the Interest Revenue account, the amount would be credited to one of these accounts as in the preceding illustration. The net debit remaining in the account would be transferred to the Interest Expense account.

Payment of Notes Receivable Discounted; Dishonored Notes. When the bank receives payment for a note which it had discounted for a depositor, it notifies the depositor that payment has been received. The depositor would then make an entry to debit Notes Receivable Discounted and to credit Notes Receivable.

For a $500 note the entry would be:

June	8	Notes Receivable Discounted		500	00		
		Notes Receivable				500	00
		To record payment of A. E. Jones's note, discounted March 3 at First National Bank					

If the note is not paid, the bank, in all probability, would call upon the indorser to make the payment. The indorser might charge the amount of the payment to the account of the maker of the note, or he might make two entries. He might debit the payment to a Dishonored Note account and make a second entry to debit Notes Receivable Discounted and credit Notes Receivable. If the amount of the note plus interest were $505, he would make the following entry:

June	8	Dishonored Notes		505	00		
		Cash				505	00
		To record payment to First National for A. E. Jones's defaulted note					

A second entry would be made to debit Notes Receivable Discounted, $500, and to credit Notes Receivable, $500. Any other expenses such as the cost of protesting the note would be debited to the Dishonored Note account.

Recording Notes Receivable. When there are few notes receivable transactions, one account Notes Receivable is opened in the general ledger, where all the note transactions are entered. When note transactions occur in volume, a special journal, register, or ledger may be used. These special journals and registers will now be discussed.

Notes Receivable Journals. The notes receivable journal is a book of original entry which will generally have columns for:

The date on which the note is received
The date of the note
The maturity date of the note
The name of the maker
The names of the indorsers
The term of the note
The rate of interest
The ledger page of notes receivable ledger
The amount of the debits to Notes Receivable
The amount of the credits to Accounts Receivable
The names of accounts for which there are no special columns (sundries columns)
The method of disposing of the note.

In posting to the general ledger, the total of the Notes Receivable column is posted as a debit to the Notes Receivable account in the general ledger and the total of the Accounts Receivable column is posted to the credit of the Accounts Receivable account in the general ledger. Any amounts in the Sundries columns are posted to their respective accounts. Each amount in the Accounts Receivable column would be posted to the credit of the respective account in the Accounts Receivable ledger.

On the opposite page is a form of a notes receivable journal.

Notes Payable Journals and Registers. The notes payable journal and the notes payable register are very similar to those used for notes receivable. The notes receivable journal may be changed to a notes payable journal by changing the headings of the first two money columns to Notes Payable and Accounts Payable. The same form that was used for the notes receivable register may be used for the notes payable register.

Recording Drafts. A draft when accepted becomes an instrument with the same legal standing as a promissory note. It is then recorded exactly

(Left Page) Notes Receivable Journal

Date	Our No.	Name	R	Notes Receivable	Accounts Receivable	Sundries		R	Maker or Drawee	Indorser or Drawer
						Dr.	Cr.			

(Right Page) Notes Receivable Journal

Date	Term	Rate of Int.	Maturity												Where Payable	When Paid
			J	F	M	A	M	J	J	A	S	O	N	D		

The Notes Receivable Ledger or Register. If an Amount column is substituted for the Reference, Notes Receivable, Accounts Receivable, and Sundries columns, the notes receivable journal is converted into a notes receivable ledger or register.

The data from each note are entered in this register, and when a note is paid the date is entered. The Notes Receivable account in the general ledger becomes a control account to which the total of a Notes Receivable debit column in the general journal and the total of a Notes Receivable credit column in the cash receipts journal are posted. The total of the unpaid notes should agree with the balance of the control account and with the total of the unpaid notes listed in the register.

like a note payable or receivable. Ordinarily no formal entry is made until the draft has been accepted, although memorandum records of the drafts not yet accepted may be maintained. When goods are sold to a customer and a draft is drawn on the customer, the debit is ordinarily made to the customer's account. When the draft is accepted, the customer's account is credited and an account Notes Receivable or Acceptances Receivable is debited. To illustrate, let us consider the sale of merchandise to A. Boyd for $500 for which a draft is sent to Mr. Boyd. When the draft and the merchandise are sent to Mr. Boyd an entry would be made in the sales journal as follows:

A. Boyd	500	
Sales		500

When the accepted draft is received from Mr. Boyd, the following journal entry would be made:

		Notes Receivable		500	00		
		A. Boyd				500	00
		To record draft accepted by					
		A. Boyd on—					

Instead of a debit to the customer's account, when the goods and draft are sent to him, a debit may be made to an account given some such title as Unaccepted Drafts, and when the draft is accepted an entry is made to credit Unaccepted Drafts and debit Notes Receivable. If draft transactions occur in volume, the same special books may be used as are used for notes receivable. Both accepted drafts and notes receivable may be entered in the same special journal.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Define the following:

A promissory note	A banker's acceptance
A bill of exchange	An indorsement in blank
A draft	An indorsement in full
An acceptance	A qualified indorsement
A sight draft	A restrictive indorsement
A time draft	An accommodation indorsement
A trade acceptance	

2. Determine the date of maturity of notes dated January 8 which contain the following clauses:

(a) Sixty days after date, I promise to pay . . .

(b) Two months after date, I promise to pay . . .

3. If the notes in question 2 were discounted on January 28, for how many days would the bank discount the notes if it did not count the first day? If it counted both the first and last day?

4. What is true discount?

5. On January 1, 1941, $10,000 at 6 per cent interest was borrowed by S. E. Selvig. On June 30 (6 months later) Mr. Selvig made a payment of $1,000. If the United States rule were used, how much would be credited to Mr. Selvig?

6. On January 1 Mr. Heeley borrowed $6,000 at 6 per cent interest. He made payments of $2,000 on both May 1 and September 1. Determine the amount of the final payment due on December 31:

(a) Under the United States rule

(b) Under the mercantile rule.

7. Explain why there is a difference in the amount of the final payments in question 6.

8. On January 5 Arthur Wheaton received a $1,000, 90-day, 6 per cent note receivable from A. Hutson. On January 25 Mr. Wheaton discounted this note at his bank. The discount rate was 4 per cent. Determine the amount Mr. Wheaton received. Explain how you would enter this transaction.

9. The Orinton Company received a 90-day, 4 per cent note for $2,000 from A. Price. The note was received on April 4 and was discounted on May 16 at the National Bank. The bank rate of discount was 6 per cent. Determine the amount received by the Orinton Company. Explain how you would enter this transaction in the books of the Orinton Company.

10. Outline the steps you went through in determining the net proceeds in questions 8 and 9.

11. On December 15 your company received a 60-day, $5,000, 4 per cent note receivable from A. B. Jones. The books were closed on December 31. On January 14 you discounted this note at the Borden bank. The bank rate of discount was 6 per cent. Give the entry or entries you would make on December 31 and the entry to record the note.

12. What entry would you make when the bank notified you that A. B. Jones had paid the note?

13. What entry would you make if the bank notified you that A. B. Jones had failed to pay his note and the bank had charged it to your account?

14. Distinguish between a notes receivable journal and a notes receivable register.

15. How would you record a draft you drew on B. C. Wilson?

LABORATORY PROBLEMS

1. On October 1 the Riston Co. received a $1,000, 90-day, 4 per cent note from Elmer Harder for the balance of his account. On November 30 the Riston Co. discounted this note at the First National Bank; the bank rate of discount was 5 per cent. On December 30 the Riston Co. was notified by the First National Bank that the note had been paid by Mr. Harder.

Make entries in the proper books to record the receipt of the note, the accrual of interest, the discount of the note, and the payment of the note.

2. On June 10 the Hinton Sales Co. purchased merchandise from the American Biscuit Co. for $500. The Hinton Sales Co. paid $100 cash and gave a 60-day, 6 per cent note payable for $250, the balance to be on account. The Hinton Co. closed its books on June 30. Explain how you would record this sale. Make the adjusting entry you would make on June 30. Make the readjusting entry that might be made on July 1.

3. The Milway Manufacturing Co. closes its books each month. On July 1, it received a $1,000, 3-month, 6 per cent note receivable from Maston Bros.

(a) Make the adjusting journal entry that would be made on July 31 to record the accrued interest, and make the readjusting journal entry on August 1. Make the adjusting entry that would be made on August 31, and the readjusting entry that would be made on September 1.

(b) Give the entries that would be made at the end of July and August if the readjusting entry method were not used.

4. (a) On May 1 the Aston Manufacturing Co. shipped merchandise to the following persons and mailed the following drafts:

A. B. Setzer, $500, 60-day, 6 per cent draft.
E. B. Hyland, $400, 30-day, 3 per cent draft.
E. S. Fitz, $425, 60-day, 6 per cent draft.
R. B. Boise, $375, 90-day, 8 per cent draft.

On May 11 the accepted drafts were received from A. B. Setzer, E. B. Hyland, and R. B. Boise. On May 13 these drafts were taken to the Merchants National Bank, where they were discounted at 6 per cent. On June 4 the Aston Manufacturing Co. was notified that E. B. Hyland had not paid his draft and that the draft plus interest was charged to the Aston Manufacturing Co. account. On June 10 the Aston Manufacturing Co. protested this draft. On June 10 protest fees of $5 were paid by the Aston Manufacturing Co. Make journal entries for all the transactions, including the journal entry to record drafts when mailed.

(b) Make the entry on June 30 when bank notified the Aston Manufacturing Co. that Setzer had paid his draft.

5. (a) Make general journal entries to record the following transactions, showing your calculations as part of the explanations:

March	3	Purchased merchandise on account from Deems & Co., $500.
	7	Paid Deems & Co. by a check for $300 and a 30-day, 6 per cent note for $200.
	11	Discounted a 60-day $1,000 note payable at the City Bank; the discount rate was 8 per cent.
	13	Received a 30-day, noninterest-bearing note for $300 from Peter Furst for merchandise sold to him.
	14	Sold merchandise for $400 to N. M. Free, and accepted his 90-day, 6 per cent note for $400.
	26	Discounted the note received on March 14 at the City Bank; the discount rate was 8 per cent.
	31	Sold delivery truck to Jack Renny. Received his 60-day, 5 per cent note for $650. The truck was purchased 5 years previously for $1,200. The depreciation to the date of sale was $500.

(b) You are to make the adjusting entries for accrued interest.

(c) Transactions during April:

April	1	The readjusting entries are to be made.
	2	The note received on March 13 from Peter Furst was discounted at the City Bank: the discount rate was 8 per cent.
	6	Paid the note of March 7.
	15	Received notice from the bank that the note of Peter Furst was dishonored.
	23	Peter Furst paid his note of March 13, together with 8 per cent interest from date of maturity.

Make all entries to record the transactions for April.

6. On July 1, 1938, the Western Consolidated Department Stores made a loan of $15,000, with interest at 8 per cent, to the Nurway Manufacturing Co. The Nurway Manufacturing Co. agreed to make the following repayments:

December 31, 1939, $5,000.
December 31, 1941, $5,000.
December 31, 1943, the balance due.

(a) Make up a schedule showing payments and interest under the United States rule.

(b) Make up a schedule showing payments and interest under the mercantile rule.

7. Do Practice Set 1, part II, (a) to (g).

CHAPTER XV. THE STATEMENT OF PROFIT AND LOSS

The Classification of Expenses. The statement of profit and loss was introduced briefly in Chapter II in order to acquaint the reader with one method of presenting revenue and expense data. This statement is made up to provide information on the revenue and expenses.

The form of the statement of profit and loss illustrated on page 278 provides the type of revenue and expense information that is usually presented to creditors and investors. On this statement the revenue and deductions therefrom are classified as follows:

Sales
Sales returns and allowances, and sales discounts
Cost of goods sold
Selling expenses
General and administrative expenses
Financial additions and deductions
Nonrecurring additions and deductions.

This classification is not presented as a standardized classification that will be adequate for all purposes.[1] The latter part of the statement in particular may have to be modified slightly to present certain items clearly. The main point to keep in mind is that all revenues, expenses, profits, and losses should be so described that they will not be misunderstood by anyone.

The statement of profit and loss might be considered to be made up of two major divisions, the first ending with the operating profit. Before we discuss the different classifications on the statement of profit and loss, the deductions made from revenue to obtain this profit will be discussed.

The Operating Profit. The operating profit, or the profit from operations, is that profit obtained from the exchange of the goods or services in which the enterprise deals, that is, the profit which results from the efforts of the operating management of the enterprise. In other words:

The deductions that are made from revenue to obtain the operating

[1] The reader is again reminded that this classification is for the purpose of providing information for investors and creditors. There are other possible classifications of expenses. Classification is simply a method of providing information. Different types of information require different classifications.

profit are those deductions which can be matched with the revenue for the period. These include:

The sales returns and allowances
The sales discounts
The bad debts
The expenses.

We shall discuss the last of these groups first, for this group is inseparably connected with revenue. The expenses are the costs of the goods and services expended in obtaining the revenue for the accounting period. Obviously the expenses should be the major operating deductions.

Since the sales returns and allowances are matched either directly or indirectly with sales and are simply a reduction in the sales for the period, their amount is a proper operating deduction.

Accountants are not agreed upon any one method of treating sales discounts. Some believe that sales discounts should be deducted from sales in the process of obtaining the operating profit. Others believe that sales discounts should be considered a nonoperating deduction of a financial nature. The supporters of the latter method state that sales discounts are granted in order to speed up collections, thereby reducing the amount of capital needed by the business. Therefore, sales discounts are in the nature of an interest charge.

On the other hand it may be argued that sales discounts are virtually reductions in the sales price of the goods; that the claim against the creditor is, until the end of the discount period, for the net amount only. Consequently sales discounts should be included with the deductions made from sales to obtain the operating profit. This latter treatment seems preferable for several reasons: sales discounts can be matched with sales, and they are under the control of the operating management of the enterprise. Problems that arise in matching sales discounts with sales will be discussed in more detail in Chapter XVIII.

The bad debts are also proper deductions to be made to obtain the operating profit. This is true for two reasons:

1. Comparisons of the operating profits of enterprises doing a cash business with the operating profits of enterprises doing a credit business are not on the same basis unless the bad debts are included among the deductions from revenue to obtain the operating profit.
2. Bad debts are directly connected with revenue.

When the amount of the bad debts is included with the operating expenses[1] the operating profit of companies that sell on credit is comparable with that of companies that sell for cash. Companies that sustain bad

[1] Bad debts are often referred to as expenses even though this terminology is slightly inaccurate; see page 18.

Best Stores

Statement of Profit and Loss
Year Ended December 31, 1942

Sales			$252,500
Less: Sales Returns and Allowances		$ 5,500	
Sales Discounts		1,000	6,500
Net Sales			$246,000
Cost of Goods Sold:			
Inventory, Jan. 1		$ 30,000	
Purchases	$210,000		
Less: Purchase Returns and Allowances	20,000	190,000	
Transportation In		15,000	
Goods Available for Sale		$235,000	
Less: Inventory, Dec. 31		25,000	210,000
Gross Margin			$ 36,000
Selling Expenses:			
Sales Salaries	$ 12,600		
Delivery Salaries	3,000		
Advertising Expense	2,400		
Delivery Supplies Used	1,500		
Sales Supplies Used	1,200		
Freight Out	950		
Depreciation of Sales Equipment	800		
Depreciation of Delivery Equipment	650	$ 23,100	
General and Administrative Expenses:			
Officers' Salaries	$ 5,000		
Office Salaries	2,500		
Bad Debts	1,040		
Office Supplies Used	760		
Depreciation of Office Equipment	500		
Sundry General Expenses	200	10,000	33,100
Operating Profit			$2,900
Financial Additions and Deductions:			
Deductions:			
Interest on Bonds Payable	$ 1,000		
Interest on Notes Payable	100	$ 1,100	
Additions:			
Interest on Notes Receivable		200	900
Net Profit After Recurring Additions and Deductions			$ 2,000
Nonrecurring Additions and Deductions:			
Additions:			
Profit on the Sale of Investments		$ 2,000	
Deductions:			
Fire Loss		1,800	200
Net Profit before Federal Taxes			$ 2,200

debt losses take these into consideration when pricing their goods. They will ordinarily take a larger markup on their merchandise than do companies that sell for cash. If companies that sell on credit did not deduct the bad debts from sales in order to obtain the operating profit, their operating profit would be on a higher basis than that of companies selling for cash. For example, a company selling for cash might mark up goods that cost $100 by 20 per cent and sell them for $120. A business that suffered credit losses of 1 per cent of sales would probably mark up its goods

at least 21 per cent and sell them for $121 or more. In addition to bad debts, this business would have credit and collection expenses that the business selling for cash would not have. If the enterprise selling on credit did not deduct the bad debts from its sales when computing its operating profit, this profit would be relatively higher than that of an enterprise selling goods for cash. Finally, since bad debts can be reasonably well matched with sales, they meet our definition of operating deductions. For these reasons most accountants agree that bad debts should be included with the deductions made to obtain the operating profit.

Another deduction which is made to obtain the operating profit and which requires further comment is depreciation. Some people do not consider depreciation to be an operating expense of the enterprise. They say that some depreciation, ordinarily the major portion, occurs whether sales are made or not and hence has no connection with sales. Although depreciation does occur whether sales are made or not, it is not correct to say that depreciation is not an operating expense. Depreciation cost is incurred in order to produce goods and services for sale, and is a necessary cost of such production. If an enterprise made up a statement of profit and loss only when it was going out of business, the depreciation for the entire period would, without question, be accepted as an operating expense. But when we compute the profits for short periods of time, it is much more difficult to determine the depreciation for these periods with accuracy. However, this is a problem of computation, it does not change the nature of the deduction or its relationship to sales. It is still a proper deduction to be made from sales to obtain the operating profit.

Interest costs are usually excluded from the computation of the operating profit. This may be somewhat confusing to the reader, who may look upon interest as the cost of capital, and upon capital as necessary to produce goods and services. The cost of borrowed capital is certainly a cost to the stockholders or owners as distinguished from the enterprise itself. One of the chief reasons for the exclusion of interest is that its inclusion may distort comparisons between the operating profits of different enterprises. This is particularly true of the profits of railroads and public utilities and of some large industrial enterprises. One public utility might obtain all of its capital from its stockholders and consequently pay no interest. Another comparable company might have obtained $100,000,000 of capital from long-term creditors, on which it is paying $3,500,000 interest each year. If the latter company included interest with its operating expenses, its operating profit would not be comparable with that of the enterprise which obtained its capital from stockholders.

The exclusion of interest from the operating expenses can be justified in several ways. It may be reasoned that it is the responsibility of the owners

to arrange for the capital of the enterprise; that it is the responsibility of the operating management to provide profits from which interest and dividends can be paid. This reasoning would seem to be sound particularly in regard to interest on long-term indebtedness. It may also be reasoned that interest is one stage removed from expenses. It is the cost of capital, and capital is only indirectly a cost. It is the means of obtaining goods and services which when used in producing revenue become expenses because of their direct relationship to revenue.

A fairly strong case can be presented for the inclusion of interest on short-term notes payable as an operating expense, particularly when the loans are obtained to finance unusual increases in inventories, increases other than those necessitated by seasonal variations in the business. When the operating management assumes the responsibility of increasing the inventories beyond the normal needs of the business, the cost of the funds required could well be deducted as a cost of the sales made from these inventories, as this interest is directly connected with particular revenue.

To summarize, it may be said that some interest, ordinarily the greater part, is only remotely connected with sales. And, although other interest may be rather closely related to sales, accountants ordinarily do not find it worth while to distinguish between these two types of interest, and generally exclude all interest from the operating deductions.

Cost of Goods Sold. The costs of goods sold were discussed in Chapter VIII, and will be discussed again in Chapter XVIII.

The Selling Expenses. The expenses of the sales department are grouped together under the heading "selling expenses." *The selling expense classification includes the expenses of the sales department incurred in storing and preparing the goods for sale, in promoting and creating sales, in actually making the sales, and possibly in delivering the goods to the customers.*

Among the expenses included in this category are those of the sales department in sorting, grading, packaging, and storing the goods. But expenses incurred for these purposes prior to the time the sales department obtains the goods enter into the cost of goods sold computation. The reason for this distinction has been mentioned in Chapter VIII and will be discussed again in Chapter XVIII. The expenses incurred in promoting and creating sales are those for advertising and sales promotion. The expenses incurred in actually making the sale are those such as the salaries of the employees of the sales department, the cost of supplies used by the sales department, and the costs resulting from the use of space and equipment. The costs of space and equipment are depreciation, insurance, repairs, and taxes on the sales equipment and on the space used by the sales department. Shipping and other expenses of delivering the goods to customers are classified as selling expenses on most general-purpose

statements of profit and loss. When the shipping department is independent of the sales department, the shipping expenses are usually shown in a separate classification under the heading "shipping expenses."

The General and Administrative Expenses. The general and administrative expenses classification will ordinarily include salaries and expenses of the executives, accounting and office expenses, statistical expenses, personnel expenses, credit and collection expenses, and the like. Bad debts are sometimes shown in other classifications, but as bad debts are inherent in any business operating on a credit basis and as credit and collection expenses are considered to be administrative expenses, it seems logical to include bad debts in this classification.

Expenses like taxes, insurance, and rent will ordinarily be in part selling expenses and in part general and administrative expenses. Consequently part of these expenses should appear in each of these classifications. However, small enterprises do not ordinarily find it desirable to apportion these expenses. When this is true the expense, if substantially of one kind such as selling expense, would be included in that particular expense classification. An expense applicable in substantial amounts to more than one department, which was not apportioned would be shown in the general and administrative expense classification.

Expenses commonly classified as general and administrative are:

Officers' salaries
Office salaries
Office supplies used
Heat and light
Insurance on office equipment
Taxes on office equipment
Depreciation of office equipment
Telephone, telegraph, and postage
Taxes on the building (the part used as an office)
Insurance on the building (the part used as an office)
Depreciation of the building (the part used as an office)
Credit and collection expenses
Bad debts.

Operating Profit. The operating profit is obtained by deducting the items that can be matched with revenue from the revenue for the period. These deductions have already been discussed.

Financial Additions and Deductions. Under some such heading as "financial additions and deductions" or "nonoperating additions and deductions" certain items are classified. Examples of such items are interest earned on investments, and interest on indebtedness.

Net Profit after Recurring Additions and Deductions. No abnormal or nonrecurring additions or deductions enter into the computation of the

net profit after recurring additions and deductions. This net profit is the result of the revenues, expenses, and profits and losses that normally recur from period to period. It is ordinarily an important figure to those interested in an enterprise. Management, owners, and creditors wish to know whether, in addition to the operating profit, the enterprise has other recurring revenues, profits, or losses. For example, some enterprises derive a substantial revenue year after year from interest on investments.

Nonrecurring Additions and Deductions. The difference between the nonrecurring additions and the nonrecurring deductions should be added to, or deducted from, the net profit after recurring additions and deductions.

The term "nonrecurring" means that the addition or deduction does not occur from period to period. It does not mean that the addition or deduction will never be made again. In fact it may be made for several successive periods, but it is not one which is normally made period after period.

Examples of nonrecurring additions are the profit on the sale of securities and the profit on the sale of buildings and equipment. The profit made by a shipping company on the sale of a steamship would be a profit of this type. In fact, even if during each period the company disposed of some of its ships and equipment at a profit, the profit would still be classified as a nonrecurring profit. It is not a profit that would normally recur from period to period. Such transactions might end at any time. Examples of nonrecurring deductions are losses on the sale of securities, losses on the sale of buildings and equipment, and fire losses.

The nonrecurring additions and deductions should be clearly distinguished from those which normally recur from period to period.

The Correction of Errors in Profits of Preceding Periods. Errors may be discovered in the estimates of the expenses of preceding accounting periods. One of the most common errors is that made in the estimates of depreciation, and this is particularly true when unforeseen obsolescence occurs. Similar errors may be made in estimates of depletion and bad debts. In the twenties several nationally known enterprises made substantial errors in the computation of their depreciation charges, and during the years of severe depression following 1929 many enterprises overestimated their bad debt losses. When such errors are discovered they should be corrected.

Theoretically the profits of the periods affected by the error should be corrected. But as these profits have been closed to the proprietorship account or to Surplus, it would be very difficult to make such corrections. Two methods of meeting this problem have been suggested. The American Accounting Association believes that the correction should be shown on the profit and loss statement of the year in which the error is discovered.

If an error of $205,000 was discovered in 1943 in the depreciation of past periods, $205,000 would be shown on the profit and loss statement as a deduction from the net profit after recurring additions and deductions for 1943. The American Institute of Accountants seems to prefer the practice of recording such items in the Surplus account, and preparing a combined statement of profit and loss and surplus.[1] The statement of Libby, McNeil and Libby Co. in Chapter XXXII is an illustration of such a statement.

The annual statement of The White Motor Company for the year 1943 is given below in order to acquaint the reader with a typical form of published statement of profit and loss.

The White Motor Company
and Subsidiary Companies

CONSOLIDATED PROFIT AND LOSS STATEMENT
For the Year Ended December 31, 1942

NET SALES		$132,152,251.71
Cost of Goods Sold		100,278,600.04
GROSS PROFIT		$ 31,873,651.67
Selling, Administrative, and General Expenses		9,707,711.85
OPERATING PROFIT		$ 22,165,939.82
OTHER INCOME		
Interest and Finance Fees Earned and Discount on Purchases	$ 499,794 24	
Income from Other Security Investments, Etc.	13,362.67	513,156.91
		$22,679,096.73
OTHER DEDUCATIONS		
Interest Expense and Discount on Installment Contracts Sold		9,977.43
		$ 22,669,119.30
Provision for Cessation of War Business and Other Contingencies		2,500,000.00
PROFIT BEFORE TAXES ON INCOME		$ 20,169,119.30
Taxes on Income for the Year—Estimated:		
Federal Normal Income Tax and Surtax	$ 900,000.00	
Federal Excess Profits Tax (after Credit of $1,165,000.00 for Debt Retirement)	16,700,000.00	
	$17,600,000.00	
Less Postwar Refund of Excess Profits Tax	620,000.00	16,980,000.00
NET PROFIT		$ 3,189,119.30

Provisions for depreciation and amortization of property, plant, and equipment amounted to $583,208.26, and amortization of patterns, dies, and special tools amounted to $477,967.22.

Note A: Profits of the companies include those from transactions subject to the provisions of the War Profits Control Act providing for recapture of any profits found as a result of renegotiation to be excessive. Renegotiation proceedings have been commenced but have not progressed to a point where determination can be made as to the effect, if any, that such renegotiation may have upon the financial statements of the companies. Any refund of profits that might result would be after credit of the amount of applicable income and excess profits taxes paid thereupon.

[1] *Accounting Research Bulletin No. 8*, Committee on Accounting Procedure American Institute of Accountants, February, 1941

Revenues Other than the Major Revenue. Revenues other than the major revenue may be difficult to present satisfactorily on the statement of profit and loss. These revenues can always be shown as an addition to the operating profit; but the question facing the accountant is that of determining whether or not they should enter into the computation of the operating profit.

Probably the best policy for the accountant to follow is to include such revenue as part of the operating revenue if operating expenses were incurred in order to earn this revenue. To illustrate, let us consider a common case, the rent received by a grocer for part of a store rented to a butcher. To earn this rent, the grocer incurs such expenses as insurance, taxes, depreciation, heating, and possibly lighting expenses not only for the part of the building he uses but also for the part used by the butcher. In other words, the operating expenses would include expenses incurred to earn the rent. Under such circumstances the rent revenue could be shown by adding it to the gross margin to obtain an amount from which deductions would be made to obtain the operating profit. The following statement in condensed form illustrates this method of presentation:

The Brown and Young Company

Statement of Profit and Loss
January 1 to December 31, 1941

Sales	$116,250.00
Cost of Goods Sold	96,140.00
Gross Margin on Sales	$ 20,110.00
Rent Revenue	2,400.00
Gross Margin	$ 22,510.00
Operating Expenses	12,245.00
Operating Profit	$ 10,265.00

Another method of presenting this revenue on the statement would be to add the rent revenue to the profit computed without the rent revenue to obtain the operating profit. The statement would appear as follows:

The Brown and Young Company

Statement of Profit and Loss
January 1 to December 31, 1941

Sales	$116,250.00
Cost of Goods Sold	96,140.00
Gross Margin	$ 20,110.00
Operating Expenses	12,245.00
Profit before Rent Revenue	$ 7,865.00
Rent Revenue	2,400.00
Operating Profit	$ 10,265.00

Finally, if the information were considered worth the cost, a portion of the expense might be allocated to the rent revenue. The operating profit from sales would be determined, to which would be added the dif-

ference between the rent revenue and the expense allocated to it, to obtain the operating profit for the period.

Earned revenue other than the major operating revenue for which none of the operating expenses were incurred is best shown on the statement of profit and loss under some such heading as "other recurring additions and deductions." If it does not recur, it would be included with the non-recurring additions and deductions.

The Comparative Statement of Profit and Loss. Statements are often made up to present a comparison of the revenues, expenses, and profits or losses for two or more periods. The revenue and expenses for each period are listed in vertical columns. In a third column the changes are shown. These changes are preceded by + or − signs to show whether the change was an increase or a decrease. The following is such a statement for the Renu Company for the years 1943 and 1944:

Renu Company

Comparative Statement of Profit and Loss
Years 1943 and 1944

	1943	*1944*	*Change*
Sales	$11,500,000	$13,200,000	$+1,700,000
Cost of Goods Sold	9,300,000	10,800,000	+1,500,000
Gross Margin	$ 2,200,000	$ 2,400,000	$+ 200,000
Selling Expenses	1,500,000	1,600,000	+ 100,000
	$ 700,000	$ 800,000	$+ 100,000
General and Administrative Expenses	500,000	550,000	+ 50,000
Operating Profit	$ 200,000	$ 250,000	$+ 50,000

From this statement it is seen that the gross margin increased $200,000. But to obtain this increase, the selling expenses increased $100,000 and the general and administrative expenses increased $50,000. That is, expenses increased a total of $150,000, leaving a $50,000 increase in the operating profit.

This statement shows what changes occurred in the revenue and expenses for the period. Changes that appear to be greater than they should be, may require further investigation.

In Chapter XXXIV the comparative statement of profit and loss is discussed more thoroughly. Our purpose here is simply to introduce the statement to the reader.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain the nature of the deductions made from sales to obtain the operating profit of an enterprise.

2. Should you include sales discounts and bad debts with the deductions you would make from sales in order to obtain the operating profit?

3. Would you include interest with the deductions you would make in order to obtain the operating profit?

4. Would you consider interest on investments as operating revenue of a merchandising enterprise?

5. How would you classify the general expenses of a merchandising enterprise?

6. Explain selling expenses, general and administrative expenses.

7. Why should depreciation be considered an operating expense of an enterprise?

8. The Cassway Lumber Company sold two ships used to transport lumber, at a total profit of $350,000. How would you show this profit on the statement of profit and loss?

9. Some time ago an accountant in preparing a statement of profit and loss for a manufacturing enterprise showed, as an addition to the net profit on sales, Other Operating Revenues of $150,000, after which the Operating Profit was shown. The Other Operating Revenue was profit made on the sale of a piece of land. Comment upon this statement of profit and loss.

10. How would you correct an error such as that of the under-depreciation in past periods of a building by $50,000?

11. How would you show the revenues obtained by the owner of a ladies' ready-to-wear store from a department leased to a milliner?

12. Of what value is the comparative statement of profit and loss?

LABORATORY PROBLEMS

1. (a) From the following accounts prepare a classified profit and loss statement for G. Burd, for the year ending December 31, 1937:

Inventory, Jan. 1, 1937	$ 12,000
Inventory, Dec. 31, 1937	10,000
Purchases	86,000
Sales	105,000
Sales Salary Expense	6,200
Office Salary Expense	3,500
Sales Supplies Used	1,600
Advertising Expense	2,300
Office Supplies Used	800
Insurance Expense	250
Delivery Expenses	2,400

(b) From the following accounts prepare a classified profit and loss statement for the Black Bear Stores for the period from January 1, 1937, to June 30, 1937:

Sales	$ 95,600
Sales Discounts	500
Sales Returns and Allowances	1,000
Purchase Returns and Allowances	700
Transportation In	1,200
Sundry Selling Expenses	2,700
Sales Supplies Used	1,800
Advertising Expense	1,800
Sales Salaries	4,200
Purchases Discounts	300
Sundry Office Expenses	1,900
Office Salaries	3,300
Delivery Expenses	1,200
Office Supplies Used	900
Purchases	70,500
Inventory, Jan. 1, 1937	12,600
Inventory, June 30, 1937	9,600

2. From the following accounts prepare a classified profit and loss statement for J. Williams, for the year ending December 31, 1944:

Sales	$135,600.50
Sales Returns and Allowances	1,100.75
Purchase Discounts	638.90
Freight Out	896.40
Purchase Returns and Allowances	983.20
Sales Discounts	864.25
Transportation In	3,234.15
Sales Salaries	8,695.10
Depreciation of Delivery Equipment	1,236.00
Delivery Salaries	1,800.00
Sundry Selling Expenses	1,960.00
Office Salaries	2,400.00
Bad Debts	435.80
Gasoline and Oil Used	2,320.90
Office Supplies Used	1,160.40
Insurance Expense	395.15
Interest Revenue	126.10
Loss on Sale of Truck	235.40
Profit on Sale of Securities	1,615.25
Inventory, Jan. 1, 1944	15,890.65
Inventory, Dec. 31, 1944	10,280.40
Purchases	105,320.60

3. From the following accounts prepare a classified profit and loss statement for The Jones Trading Company for the 6-month period ending June 30, 1939:

Inventory, Jan. 1, 1939	$ 8,800.00
Inventory, June 30, 1939	9,300.00
Sales	63,500.00
Purchases	52,400.00
Sales Returns and Allowances	200.00
Transportation In	600.00
Purchase Returns and Allowances	300.00
Sales Discounts	450.00
Purchase Discounts	350.00
Interest Revenue	75.00
Interest Expense	125.00
Sales Salaries	1,200.00
Sales Commissions Revenue	200.00
Sales Supplies Used	190.00
Depreciation of Sales Equipment	900.00
Profit on Sale of Delivery Truck	400.00
Freight Out	325.00
Advertising	1,250.00
Rent Expense	600.00
Office Supplies Used	250.00
Taxes	115.00
Office Salaries	800.00
Insurance	175.00
Executive Salaries	2,400.00
Sundry General Expenses	110.00
Bad Debts	450.00
Fire Loss	550.00
Depreciation of Office Equipment	250.00
Delivery Salaries	800.00
Gasoline and Oil Used	350.00

CHAPTER XVI. THE USE OF DATA ON ASSETS AND LIABILITIES. THE BALANCE SHEET

Those Interested in Asset and Liability Data. Information concerning the assets and liabilities of an enterprise is of interest to management, to investors, to labor, and to creditors. All of these parties are interested in the ability of the enterprise to provide the necessary cash with which to pay bills, wages, and dividends, and to use for any other needs of the enterprise. Over a period of years the profits of an enterprise may be, and in fact often are, more indicative of its cash-producing ability than data on its assets and liabilities. But for short periods of time, data concerning the assets and liabilities, combined with information on the profits or losses, will be very useful in providing such information.

It was explained in Chapter III that an enterprise needs assets with which to produce goods and to render services. These assets of the enterprise are provided by the following parties:

The owners
The long-term creditors
The trade-creditors
The banks and other financial institutions.

The owners and long-term creditors ordinarily furnish cash for the enterprise, the trade-creditors furnish merchandise, and the banks furnish cash or its equivalent, credit. The owners and long-term creditors are permanent or semipermanent suppliers of assets. The trade-creditors must be paid periodically, but if payments are made as agreed, the credit will be renewed, and this will be continued indefinitely. Banks will provide credit for a period of time, and often provide the credit for seasonal needs of the enterprise, but a bank does not wish to become a permanent investor in the enterprise.

The Normal Flow of Assets Within a Business. The assets of an operating business go through a continuous cycle. Cash and credit are continuously being used to acquire goods and services through which goods are sold and services rendered. Receivables and cash are again acquired and the cycle continues. This is illustrated by the following diagram.[1]

[1] Charles Porter and Wyman P. Fiske, *Accounting*, Henry Holt & Company, Inc., New York, 1935, pp. 13–14.

$$\begin{tikzcd} & \text{Cash} \arrow[dr] & \\ \text{Receivables} \arrow[ur] & & \text{Inventories} \arrow[ll, bend left] \end{tikzcd}$$

The important position of cash can be seen from this diagram. By using cash the enterprise acquires inventories, which are sold, and accounts receivable and/or cash are again acquired. If the business operates at a profit and no expansion takes place, this process should generate cash. The sales convert inventories into receivables of an amount greater than was expended, and the receivables are converted into cash. The normal result of this process would be to increase the cash of the enterprise. However, the cash may not be permanently increased; it will be used to pay expenses and purchase supplies, and for other purposes.

If merchandise is purchased on credit as is ordinarily the case, there is an expansion in this cycle. The inventories so purchased are converted into cash, and cash is used to pay off liabilities. But as this is happening new inventories are being acquired and new liabilities incurred. The inventories are sold and thereby converted into receivables and cash. The cash is used to pay liabilities to acquire new inventories and to pay for the various services received, and the cycle continues.

The Inventories and Receivables are actually permanent assets of the business. Even though they are continuously being liquidated, new inventories and receivables are continuously being acquired. The same is true of liabilities. As liabilities are being liquidated new liabilities are incurred. Thus *liabilities may become a permanent source of assets for the business;* that is, the trade-creditors supply purchasing power for the business. The importance of maintaining a proper flow of assets within the business should now be obvious.

Efficient management of the finances of an enterprise requires that the normal flow of assets within a business should not be obstructed if trouble is to be avoided. If the inventories are not converted into receivables at the normal rate, or if the receivables are not converted into cash at the normal rate, the effect is similar to the damming of a stream. There is a swelling or expansion at that point, and the flow is disrupted.

To provide for a smooth flow of assets in a business it is first necessary that sufficient cash be provided when the business is started. The trade-creditors may supply some of the merchandise, but they expect to be paid at certain intervals of time. If payments are made as agreed, the creditors will continue to supply merchandise and become permanent sources of assets for the business. If the credit terms received are much longer than those extended to customers, the creditors may supply a substantial amount of the assets for the enterprise. But this does not often happen.

Usually the creditors must be paid before the goods are sold and collections made from the customers. For example, let us consider an enterprise which purchases merchandise for $20,000 on 30 days' credit. If 30 days were required to sell the merchandise and another 30 days to make collections, the enterprise would require $20,000 cash to pay the creditors at the end of 30 days, and in addition, it would require cash with which to pay for the services used in operating the business. With the initial required amount provided, the enterprise would be able to finance itself from then on if the regular flow of assets were maintained and if no expansion occurred.

Even if a business starts with sufficient cash, is profitable, and maintains control over its inventories and receivables, it may need additional assets if it is expanding. Sales may expand too rapidly for the assets of the business. Increased sales will normally require higher inventories and receivables, and this will require higher payments to trade-creditors. The enterprise must have or obtain the cash with which to make these higher payments. Otherwise the payments cannot be made, and the flow of merchandise from the creditors may be disrupted. This occurs frequently in new successful enterprises, the sales of which expand at such a rate that the profits do not provide the additional cash and other assets needed.

With the required amount of assets available, the management has the responsibility of providing for the regular flow of these assets, of planning the finances, and of controlling expansion so that this flow can be maintained. Finally, the management has the responsibility of protecting the assets of the enterprise. Assets may be diverted from their main channels and be lost to the current needs of the enterprise. This may be the result of:

Losses
The unwise payment of dividends
The use of funds to purchase plant and equipment
The use of cash to pay off long-term liabilities.

Obviously the management of the finances of an enterprise is a very important responsibility. A profitable enterprise can be ruined by the unwise handling of its finances.

As a first step in presenting information concerning the assets of an enterprise the assets and liabilities are classified on the balance sheet. This alone is not enough to provide an adequate picture of what is actually happening to the assets, considerable other data being needed. In fact the value of the orthodox classifications is now being questioned.[1] However, the student must be familiar with them.

[1] See Stephen Gilman, "Accounting Principles and the Current Classification," *Accounting Review*, April, 1944, pp. 109–116. Also see Geo. O. May, *Financial Accounting*, The Macmillan Company, New York, 1943, pp. 142–143.

The Classification of Assets and Liabilities. The assets and the liabilities on the following balance sheet are not classified in any way:

The True-Blue Store

Balance Sheet
December 31, 1941

Assets		*Liabilities and Proprietorship*	
Cash	$ 1,500	Notes Payable	$ 15,000
Accounts Receivable	17,500	Accounts Payable	22,800
Notes Receivable	2,500	Accrued Salaries	1,500
Inventory	10,500	Mortgage Payable	30,000
Land	20,000	Total Liabilities	69,300
Buildings (net)	50,000	True-Blue Store, Proprietorship	32,700
	$102,000		$102,000

This statement shows that the assets of $102,000 are well in excess of the liabilities of $69,300, but it provides little information concerning the ability of this enterprise to provide the cash necessary to carry on its operations. By classifying the assets into two groups, current and noncurrent or fixed assets, and by classifying the liabilities in the same way, we provide more information. The following balance sheet of The True-Blue Store illustrates a classification of assets and liabilities:

The True-Blue Store

Balance Sheet
December 31, 1941

Assets			*Liabilities and Proprietorship*		
Current Assets			Current Liabilities		
Cash	$ 1,500		Notes Payable	$15,000	
Notes Receivable	2,500		Accounts Payable	22,800	
Accounts Receivable	17,500		Accrued Salaries	1,500	
Inventory	10,500				$ 39,300
		$ 32,000			
Fixed Assets			Fixed Liabilities		
Land	20,000		Mortgage Payable		30,000
Buildings (net)	50,000		The True-Blue Store,		
		70,000	Proprietorship		32,700
		$102,000			$102,000

This balance sheet shows cash and the assets that can be currently converted into cash to the amount of $32,000, and that at the same time current or short-term liabilities amount to $39,300. With current assets less than current liabilities as in this case most merchandising and manufacturing enterprises could not exist long. Additional capital must be raised or this business will probably have difficulty in meeting its obligations to its creditors. Industries such as public utilities, however, can frequently operate in this way indefinitely as they generally have a rather steady inflow of cash.

Before illustrating the classification of assets and liabilities in more detail, the above classifications will be discussed further.

Current Assets. Current assets are the assets in the cash-inventory-receivables-cash cycle and other assets that are available to be converted into cash within a reasonable time (approximately one year), the cash to be free for use in the current operation of the business.

The assets in the cash-inventory-receivables-cash cycle are: cash that is free to be used for any purpose, and the trade receivables and the inventories of stock-in-trade, which are cash-generating assets. Many accountants exclude from this classification inventories and trade-receivables that will not be converted into cash within one year, but there seems to be little justification for this practice. Inventories and trade-receivables that will not be entirely converted into cash within one year might generate more cash for the business than a smaller amount of receivables and inventories that would be so converted. Contracts receivable of $50,000, with maturities up to 24 months, might produce more cash each month than receivables of $15,000, the entire amount of which would mature within one year. Even receivables and inventories that will be converted into cash within a short period, such as 60 days, are continuously renewed in an operating business and are not available in their entirety for the payment of bills. They are little different from longer term inventories and receivables; they are relatively fixed as long as the business continues in operation.

Other assets, not in the cash-inventory-receivables-cash cycle, like accrued revenue receivable and certain investments, are available to be converted into cash. These assets are considered to be current assets if they can be converted into cash within approximately one year without disturbing the normal operations of the business. Almost all accrued revenues meet these requirements. Investments in U.S. Government bonds are of this type, as they represent the investment of excess cash and can be sold readily without affecting the operations of the business. Other types of investments, however, may be quite different. For example, stock held by the National Wholesale Grocers in the Black and White Stores for the purpose of assuring the holder a retail outlet would not, even if readily salable, be included in the current asset classification. Although the stock may be convertible into cash within one year, it is not available to be so converted.

Some accountants include the prepaid expenses in the current asset classification. They argue that the prepaid expenses will be indirectly converted into cash within one year by writing them off as expenses or by marking up the goods sold enough to cover them. These arguments would apply to many other assets—for example, that part of the cost of the building and equipment which is to be written off each year as expense. This

cost is to be written off, and an attempt is made to mark the goods up enough to cover it. The arguments advanced in support of the inclusion of prepaid expenses with the current assets would support the classification as a current asset the portion of any asset that was to be written off within a year to revenue. The inventories and receivables are at least one stage closer to cash than are these other assets. The distinction is one of degree. On the other hand, the arguments advanced for the inclusion of the prepaid expenses among the current assets are not without merit. For all practical purposes it may matter very little whether prepaid expenses are classified as current assets or separately. To the writer the preferable method seems to be to classify them separately.

When the prepaid expenses, such as insurance, rent, and supplies, are not included with the current assets most accountants prefer to show them in a separate classification for prepaid expenses, placed immediately after the current assets, as on the statement for the Halet Mercantile Company, which appears at the top of page 294. On most published statements the reader will find them following the fixed assets.

Noncurrent or Fixed Assets. The assets that are excluded from the current asset section may all be included in another group called the noncurrent or the fixed assets. This group would include special funds, investments that failed to meet the requirements of current assets, land, buildings, furniture and fixtures, goodwill, patents, etc. Obviously this group may be further subdivided, for the assets mentioned have different characteristics. For example, funds and investments are quite different from buildings and equipment.

Classification of Liabilities. The assets are classified for the purpose of presenting information on the cash-producing capacity of the enterprise, and to bring out pertinent relationships. The liabilities are classified to present data concerning the cash requirements of the business. This is done by segregating the liabilities into two groups, current liabilities and fixed liabilities. These two groups will now be discussed.

Current Liabilities. Current liabilities are those liabilities which will mature within one year and which must be paid from the current assets. Ordinarily, accounts payable, notes payable, and accrued expenses payable are included in this classification. Long-term notes payable would be excluded from this group. Liabilities that mature within one year but are to be paid out of special funds provided for that purpose, or are to be refinanced, would not be included with the current liabilities. A bond issue of $200,000 that matures within a few months from the date of the balance sheet would not be considered a current liability if payment was to be made from a sinking fund established for that purpose, or if arrangements had been made to refinance the bond issue.

The Halet Mercantile Company

Balance Sheet
December 31, 1941

Assets

Current Assets			
Cash		$ 4,500	
Accounts Receivable . . .	$ 8,000		
Less: Reserve for Doubtful Accounts	200	7,800	
Inventory		6,000	$18,300
Prepaid Expenses			
Unexpired Insurance		$ 90	
Supplies		60	150
Fixed Assets			
Building	$15,000		
Less: Reserve for Depreciation.	5,000	$10,000	
Delivery Equipment . . .	$ 3,500		
Less: Reserve for Depreciation .	1,500	2,000	12,000
			$30,450

Liabilities and Proprietorship

Current Liabilities		
Notes Payable.	$1,000	
Accounts Payable	3,000	
Accrued Taxes	200	
Accrued Salaries	400	$ 4,600
Mortgage Payable (Mat. 1948)		5,000
The Halet Mercantile Company, Proprietorship .		20,850
		$30,450

Prepaid or unearned revenue, that is, revenue collected or recorded before it is earned, is usually included with the current liabilities. This is done for two reasons: First, although there may be no liability to return the money, there is the liability to render the services; second, expenses will usually be incurred before the revenue is earned, thereby reducing the current assets. On the other hand, unearned profits, such as profits on installment sales, are usually shown separately following the current liabilities.

Noncurrent or Fixed Liabilities. Those liabilities of longer duration than the current liabilities are grouped under the heading Fixed Liabilities. Bonds payable and mortgages payable are the most common liabilities of this type. The date of maturity should be shown in parentheses after the fixed liability, as follows:

Bonds payable (Mat. June 1, 1960) $1,500,000.

The date of maturity is important. Whether a liability matures in 3 years

or 20 years may make quite a difference in the future financial condition of the enterprise.

Illustration of a Classified Balance Sheet. No one form of a balance sheet will prove satisfactory for all purposes. For many purposes a balance sheet with the assets classified into the three groups—current assets, prepaid expenses, and fixed assets—will be satisfactory. In other instances a more detailed classification may be needed.

Western Wholesale Company

Balance Sheet
December 31, 1937

Assets

Current Assets			
Cash		$ 9,396.70	
U.S. Govt. Bonds[1]		12,000.00	
Notes Receivable	$22,310.20		
Less: Reserve for Doubtful Accounts	1,893.10	20,417.10	
Inventory (at cost)[2]		12,375.40	
Accrued Interest Receivable		226.80	$ 54,416.00
Prepaid Expenses			
Unexpired Insurance		$ 236.80	
Supplies on Hand		334.20	571.00
Funds and Investments			
Sinking Fund		$10,000.00	
Investment in Brite Stores		15,000.00	25,000.00
Land, Buildings and Equipment			
Buildings and Equipment	$38,500.00		
Less: Reserve for Depreciation	16,250.00	$22,250.00	
Delivery Equipment	$ 2,426.80		
Less: Reserve for Depreciation	910.20	1,516.60	23,766.60
Intangibles			
Goodwill			5.000.00
			$108,753.60

Liabilities and Proprietorship[3]

Current Liabilities		
Notes Payable	$ 4,000.00	
Accounts Payable	8,796.10	
Accrued Salaries	396.10	
Accrued Taxes	242.80	
Accrued Interest	450.00	
Unearned Rent Revenue	800.00	$ 14,685.00
Fixed Liabilities		
Bonds Payable (Mat. April 1, 1949)		15,000.00
Western Wholesale Co., Proprietorship		
Capital Stock	$40,000.00	
Surplus	39,068.60	79,068.60
		$108,753.60

[1] Market value, $12,465.30.

[2] Market value, $13,695.50.

[3] Western Wholesale Company has indorsed notes payable of $8,000 of Brite Stores, maturity, June 30, 1938.

The balance sheet of the Western Wholesale Company illustrated on page 295 segregates the assets into five groups: current assets; prepaid expenses; funds and investments; land, buildings and equipment; and intangibles. The first two classifications have already been discussed.

The classification funds and investments would include funds and investments that did not meet the requirements of current assets. Cash in special funds like insurance funds, pension funds, or in funds for the redemption of bonds would be included here, as would investments held for some purpose other than revenue, and investments even if held for revenue if not readily marketable. The investment made by a pulp and paper company in a timber company for the purpose of protecting its supply of raw materials is of this type. Such investments would be placed in this classification even if the securities could be disposed of readily at a reasonable price. Also an investment of excess funds in bonds, such as those of the Maritime Building, would be shown in the classification if the bonds were not readily marketable.

The cost of land, buildings, machinery, furniture and fixtures, office equipment, delivery equipment, and the like are usually segregated under some caption like "land, buildings, and equipment," or "fixed assets." This segregation is made so that comparisons such as that of the sales or production with the amount invested in the plant and equipment can be made.

Some such classification as intangibles or other assets may be used for assets of an unusual type that do not belong in any of the other classifications. Goodwill, patents, copyrights, and the like are usually included in this group.

The published balance sheets of two companies appear on pages 298 to 300.

The Working Capital of an Enterprise. *The total of the current assets is the actual working capital of the enterprise, and the amount obtained by deducting the current liabilities from the current assets is the net working capital.* Most accountants use the term "working capital" for the difference between the current assets and current liabilities. If the current assets amount to $20,000 and the current liabilities to $8,000, the working capital is said to be $12,000. Actually the working capital is $20,000 and the net working capital is $12,000.

The current ratio is obtained by dividing the amount of the current assets by the amount of the current liabilities. If the current assets amount to $20,000 and the current liabilities amount to $8,000, the current ratio is 20,000 divided by 8,000, or 2.5 to 1.

The working capital and the current ratio are often used, in the absence of more detailed data, as an indication of the financial condition of the

enterprise. Investors and credit men like to see a large amount of working capital and a high current ratio. As a rule-of-thumb check of the adequacy of the current ratio it is often said that 2 to 1 is the minimum satisfactory ratio. Actually a ratio of 1 to 1 may be satisfactory for many public utilities that extend short credit terms and receive long credit terms. On the other hand, a retail furniture dealer who extends long credit terms to his customers and receives short terms from his creditors might require a current ratio much higher than 2 to 1 if he wished to avoid the necessity of borrowing on his accounts receivable. The modern credit man realizes, however, that the earning capacity of a business may be much more important from a credit standpoint than the current ratio.

Additional Information on the Balance Sheet. Sometimes it is desirable to supplement the balance sheet with additional data. Assets like inventories, securities, or land may have advanced greatly in market value since they were acquired. For example, a service station operator acquired a corner location not many years ago at a very favorable price. The value of that land is now much greater than the value of the buildings, equipment, and all other assets of the business combined. Obviously, the creditors and investors would like to know this. The same might be true of inventories. There might be a sharp advance in the prices of raw materials of which the enterprise carried a large inventory. If knowledge of this advance is important to stockholders and creditors, this information should be made available to them. In fact, any pertinent information should be made available to creditors and investors. A simple method of doing this is to draw attention to such changes by appending footnotes to the balance sheet.

The reader should have the fact clearly in mind that the balance sheet does not show present or market values. The amount shown on the balance sheet as the proprietorship is not a true net worth or present value in the sense that it represents the market value of the stockholders' equity. Few accountants have ever claimed that the balance sheet shows present values, although some of the older writings would lead a person who has not kept up with current developments in accounting to believe that this was the objective. The accountant accounts for costs instead of market values. This policy is followed not only because it is difficult to obtain market values, but because the information, even if obtained, would be useful only in exceptional cases.

In theory there are two ways of determining the market value of a business. One is by determining the present value of the profits it will yield. The other is by offering the business for sale and obtaining bids. The first method would require a knowledge of the future profits of the business, the life of the business, and future interest rates. Such estimates

are impossible to make with any degree of accuracy. This leaves only the second possibility, that of offering the business for sale, but valuations obtained in this way may be very misleading. Frequently years pass before the seller of a business can get together with buyers, or, it may even be

Cuba Northern Railways Company
and its subsidiary
Compañía De Fomento De Puerto Tarafa
CONSOLIDATED BALANCE SHEET — JUNE 30, 1940

ASSETS

CURRENT ASSETS:				
Cash on Hand and Demand and Time Deposits		$1,448,930.48		
Funds Subject to Withdrawal Restrictions		76,175.00	$ 1,525,105.48	
Marketable Securities, at cost (quoted market value, $4,625.00)			36,593.75	
Notes and Accounts Receivable:				
Notes	$ 6,091.61			
Traffic Balances Rec.	26,548.58			
Due from Agents and Conductors	7,023.97			
Misc. Accts. Rec.	61,221.42	$ 100,885.58		
Less—Reserves for Doubtful and Contested Traffic Balances and Notes and Accounts Receivable		17,981.36	82,904.22	
Materials and Supplies			366,392.90	
Due from an Associated and Affiliated Company			56,321.15	
Total current assets				$ 2,067,317.50
INVESTMENTS:				
$147,000.00 face value of Cuba Northern Railways Company, First Mortgage Gold Bonds, 5½%, due June 1, 1942, owned by Compañía de Fomento de Puerto Tarafa and $5,000.00 face value of The Cuba Railroad Company First Lien and Refunding Bonds, Series A, 7½%, due December 1, 1946, received from escrow (at cost) (quoted market value, $35,733.75)			$ 121,573.75	
Republic of Cuba, Foreign Debt 4½% Bonds, due June 30, 1977, at face value (quoted market value, $361,662.00)			663,600.00	
Compañía de Inversiones y Fomento, 5% Income Debenture Bonds, due June 30, 1958, at face value			853,000.00	1,638,173.75
FIXED ASSETS:				
Property, Plant and Equipment (at cost)			$46,249,587.87	
Less—Reserves for Depreciation, Depletion, and Amortization			8,409,009.73	37,840,578.14
DEFERRED CHARGES:				
Prepaid Insurance			$ 8,549.73	
Unamortized Debt Discount and Expense			17,563.93	
Other Items			8,952.64	35,066.30
				$41,581,135.69

LIABILITIES

CURRENT LIABILITIES:			
Accounts Payable		$ 139,130.02	
Accrued Liabilities:			
Taxes	$12,683.29		
Interest	76,844.17		
Legalized Vacation Allowances Due Employees	15,280.20	104,807.66	
Due to Affiliated Company		17,956.23	
Coupon Interest Payable		76,992.50	
Total Current Liabilities			$ 338,886.41
DEFERRED INCOME:			
Rents Collected in Advance		$ 193.56	
Advances for Unadjusted Freight and Passenger Charges		67,457.97	
Other Items		11.62	67,663.15
FUNDED DEBT AND OTHER LONG-TERM DEBT:			
Funded Debt:			
First Mortgage Gold Bonds, $5\frac{1}{2}\%$, due June 1, 1942		$16,766,000.00	
Other Long-term Debt:			
The Government of Cuba—Purchase of Júcaro to San Fernando Railroad		381,733.33	
Loan from the Government of Cuba, Payable in Services		599,215.36	17,746,948.69
OTHER LIABILITIES:			
Deposits for Construction Work, to Guarantee Service, Etc.			7,628.52
RESERVES (NOT ELSEWHERE PROVIDED FOR):			
For Dismantling of Properties		$ 147.00	
For Extraordinary Retirements, Obsolescence, Contingencies, Etc.		304,760.11	
For Other Items		484.56	305,391.67
CAPITAL STOCK:			
Authorized and Issued:			
140,000 Common Shares of $100.00 Each		$14,000.000.00	
EARNED SURPLUS		9,114,617.25	23,114,617.25
			$41,581,135.69

impossible to obtain any reasonable bids. Furthermore, it would be absurd to attempt to carry out this procedure year after year.

Some writers have suggested that all the assets be valued at their market values or at an equivalent thereof to obtain the true present values.[1] Even if we disregard the difficulties of obtaining such market values for all the assets, this method would be misleading. Market values for the machinery of a successful textile company might be so low, because the market was glutted with such machinery, that a balance sheet containing the valuations for a successful operating company might be meaningless. But, what is

[1] Kenneth MacNeal, *Truth in Accounting*, University of Pennsylvania Press, 1939.

Lion Oil Refining Company

BALANCE SHEET — DECEMBER 31, 1942

ASSETS

CURRENT ASSETS:			
Cash on hand and in banks			$ 2,864,404.40
Notes and accounts receivable:			
Trade notes and acceptances receivable		$ 8,789.72	
Trade accounts receivable		730,200.40	
Other notes and accounts receivable (officers and employees $17,679.91)		282,232.56	
Total		$ 1,021,222.68	
Less—Reserve for doubtful notes and accounts		94,986.80	926,235.88
Inventories:			
Crude oil (at market)		$ 373,165.14	
Refined oil products (at market or less)		1,255,735.84	
Merchandise (at lower of cost or market)		91,496.01	
Materials and supplies (at cost or condition value)		697,200.05	2,417,597.04
Other current assets:			
Cash value of insurance on life of officer		$ 166,583.75	
Account receivable from Lion Chemical Corporation (subsidiary)		18,007.66	184,591.41
Total current assets			$ 6,392,828.73
INVESTMENTS AND ADVANCES: (at cost)			
Securities of Lion Chemical Corporation (subsidiary)		$ 10,000.00	
Other security investments		42,453.21	
Post-war claim for refund of Federal taxes (estimated)		139,898.00	
Other investments and advances		17,574.66	209,925.87
FIXED ASSETS:	*Cost*	*Reserves for Depreciation and Depletion*	
Property, plant and equipment:			
Real estate	$ 632,830.65	$ ——	
Producing oil and gas properties and equipment	12,462,113.93	8,234,118.74	
Undeveloped oil and gas leaseholds and royalties	1,247,467.93	——	
Pipe lines and equipment	1,726,390.18	707,425.84	
Refinery and gasoline plant	4,075,484.06	2,067,036.57	
Water transportation equipment	296,628.39	41,090.48	
Tank cars	833,535.01	696,159.02	
Distributing station plant and equipment	1,778,757.19	773,604.52	
Furniture and fixtures, automobiles and trucks and other fixed assets	477,647.88	292,366.25	
Total	$23,530,855.22	$12,811,801.42	10,719,053.80
DEFERRED CHARGES:			
Patent licenses—being amortized		$ 122,000.76	
Prepaid insurance		121,630.08	
Prepaid taxes and rentals		24,293.84	
Unamortized debt discount and expense		111,294.22	
Other deferred charges		33,055.39	412,274.29
Total			$17,734,082.69

LIABILITIES

CURRENT LIABILITIES:			
Note payable			$ 6,250.00
Accounts payable			871,963.88
Accrued liabilities			
Payrolls		$ 75,434.00	
Taxes	$2,285,953.72		
Less—U. S. Treasury Tax Notes, Series "C"	1,000,000.00	1,285,953.72	
Interest		90,725.50	1,452,113.22
Other current liabilities:			
Funded debt sinking fund payment due within one year			400,000.00
Total current liabilities			$ 2,730,327.10
LONG TERM DEBT:			
First Mortgage Sinking Fund Bonds of Series "A," 3¾%, Due 1956		$5,800,000.00	
Less—Bonds to be retired within one year through sinking fund payment included in current liabilities		400,000.00	5,400,000.00
CAPITAL STOCK AND SURPLUS:			
Common capital stock—Without nominal or par value:	*Shares*		
Authorized	1,000,000		
Issued and outstanding	435,088	$7,581,168.79	
Reserved for issue	720	28,783.60	
Total	435,808	$7,609,952.39	
Earned surplus ($1,186,244.89 is not available for dividend distribution)		1,993,803.20	9,603,755.59
Total			$17,734,082.69

even more important, the value of an operating business is almost always entirely different from that of its individual parts.[1]

Finally, data on market values are of little value to the stockholders and others unless the change has been unusually great. And this we can take care of, as we explained before, by appending footnotes to the statement.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What are some of the major sources of the assets of an enterprise?

2. Explain what is meant by the cash-inventory-receivables-cash cycle.

3. The Newton Company was required to pay cash for its merchandise. It sold on credit, its customers being required to pay their bills by the tenth of the following month. The business purchased merchandise for $100 each day. How much cash would the business require to provide it with the needed merchandise if it required an average inventory of $2,500?

[1] L. Edie, *Economics: Principles and Problems*, The Macmillan Company, New York, 1926. p. 167.

4. The Supply Company was required to pay its bills at the end of each month. It extended credit terms of 60 days to its customers. Each month it sold merchandise costing $15,000. An inventory of $30,000 was required. How much cash would the enterprise require to enable it to pay its creditors?

5. Name four ways in which the assets of a business may become unavailable for the payment of liabilities.

6. In an article written a few years ago the president of a large grocery chain stated that he did not fear competition from employees well trained in large organizations who might leave to start competitive stores. He stated that the employees knew nothing about the financial problems of managing a business, and would soon get into difficulties. What did he mean?

7. Explain how a profitable business that did not dissipate its assets might get itself into financial difficulties.

8. Give examples of assets that would be included in each of the following classifications:

Current Assets	Intangibles
Prepaid Expenses	
Funds and Investments	
Plant and Equipment	

9. Justify the classification as current assets of inventories and receivables that will not be converted into cash within one year.

10. In what classification would you include the unearned subscriptions of a magazine company?

11. Define working capital, the current ratio.

12. What is a comparative balance sheet? What is it used for?

13. Does the balance sheet show the present value of an enterprise?

14. The N.Y.K. Company purchased 2,000,000 pounds of scrap rubber at 2 cents a pound. The price of this rubber increased to 10 cents a pound. This increase amounted to $160,000. The total inventory of the N.Y.K. Company normally amounted to $100,000. Would you show the inventory of scrap rubber at $40,000 or $200,000?

15. How would you classify the following on a balance sheet on December 31?

a. Cash
b. Cash in a closed bank
c. Cash in a fund for the redemption of bonds
d. Notes receivable
e. Notes receivable, maturing in 3 years
f. Accrued interest receivable
g. Accrued interest receivable payable in 3 years when a note receivable matures
h. Contracts receivable, all maturing within 12 months
i. Contracts receivable maturing up to 24 months
j. Goodwill
k. Advertising paid to a newspaper on a contract covering ordinary advertising for the next 6 months
l. Advertising contest for a slogan, which cost a department store $200,000
m. Bonds payable
n. Bonds payable maturing in 5 months
o. A serial bond issue of $100,000, $10,000 to be retired on May 1 of each year
p. Interest on bonds payable accrued but unpaid
q. Bonds payable maturing June 1, for which refinancing has been arranged

r. The indorsement of a note payable for another company
s. Real estate not used for operating purposes
t. Rearrangement costs in a factory resulting in greater productivity
u. Reserve for depreciation of delivery equipment
v. Unearned interest, appearing on the trial balance of a bank
w. Subscriptions collected in advance by a magazine company
x. Unpaid taxes

LABORATORY PROBLEMS

1. (a) Make up an account form classified balance sheet as of December 31, 1937, for the Martin Store from the following:

Cash	$3,300
Inventory	4,200
Accounts Receivable	4,200
Interest Earned but Uncollected	75
Insurance Paid in Advance	86
Unpaid Taxes	80
Supplies on Hand	125
Buildings and Equipment	6,000
U.S. Government Bonds	4,000
Notes Payable	1,000

(b) From the following information make up an account form classified balance sheet for The Southwest Trading Co. as of June 30, 1942: Cash $4,285.96, merchandise $3,425.50, accounts receivable $2,695.80, unexpired insurance $45.60, rent paid in advance $200, furniture and fixtures $1,145.25, unpaid taxes $125.40, notes payable $800, unpaid interest on the notes payable $20.

2. From the following information make up an account form classified balance sheet for the Northeast Wholesale Co. as of December 31, 1942:

Cash	$25,896.45
Inventory	38,440.25
Buildings and Equipment	50,696.50
Unexpired Insurance	298.40
Supplies on Hand	465.90
Investment in U.S. Government Bonds	10,500.00
Interest Earned but Not Received	150.00
Delivery Equipment	6,945.60
Accounts Payable	14,565.40
Unpaid Salaries on Dec. 31	643.90
Unpaid Taxes for the Year 1942	445.70
Bonds Payable (Maturity 1975)	25,000.00
Interest to Dec. 31, 1942, on Bonds Payable	500.00
Estimated Depreciation of Buildings	5,630.90
Estimated Depreciation of Delivery Equipment	1,630.10
Capital Stock	75,000.00

3. (a) From the following data make up a report form classified balance sheet for the Eastco Co. as of December 31, 1944:

Cash	$ 6,950.25
Accounts Receivable	4,225.90
Inventory	9,619.10
Land	5,000.00
Buildings and Equipment	10,690.20
Mortgage on Buildings (Matures 1959)	6,000.00
Estimated Depreciation of Buildings and Equipment	2,893.10

Estimated Bad Accounts	201.60
Accounts Payable	8,545.20
Notes Payable	1,500.00
Unpaid Salaries	210.60

(b) Determine the working capital and the current ratio.

4. (a) From the following information make up an account form classified balance sheet for The Williams, Brown Wholesale Grocery as of December 31, 1944:

Cash	$ 95,618.35
Investment in Quality Stores Stock (The Quality Stores was a small chain controlled by The Williams, Brown Wholesale Co.)	45,900.00
Accounts Receivable	126,840.30
Inventory	230,218.60
Estimated Bad Accounts	3,455.90
Advances to Salesmen	540.00
Supplies on Hand	560.30
Unexpired Insurance	213.60
Investment in U.S. Government Bonds	8,000.00
Accrued Interest Receivable	215.00
Land	5,000.00
Buildings and Equipment	65,000.00
Estimated Depreciation of Buildings and Equipment	23,500.00
Delivery Equipment	5,800.00
Estimated Depreciation of Delivery Equipment	2,100.00
Notes Payable	6,500.00
Accounts Payable	14,240.60
Unpaid Taxes	712.00
Capital Stock	50,000.00

(b) Determine the working capital and the current ratio.

5. The assets, liabilities, and proprietorship of the J. S. Williams Store are given below as they were on December 31, 1939, and December 31, 1940. You are required to study these balance sheets in order to determine the important changes that took place in the assets and liabilities during the year 1940. To aid you in your analysis make up a statement like the one below and add a third column in which you will show the increases and decreases in each item.

J. S. Williams Store

Balance Sheets as of December 31, 1939, and December 31, 1940

Assets	*Dec. 31, 1939*	*Dec. 31, 1940*
Cash	$ 15,000	$ 1,200
Accounts Receivable (net)	58,000	62,800
Inventory	50,000	45,000
Supplies	250	300
Prepaid Insurance	750	800
Land	5,000	5,000
Buildings (net)	25,000	35,000
	$154,000	$150,100
Liabilities and Proprietorship		
Accounts Payable	$ 35,000	$ 30,000
Accrued Expenses	1,200	1,000
Mortgage Payable (Matures March 1, 1941)	20,000	20,000
J. S. Williams Store, Proprietorship	97,800	99,100
	$154,000	$150,100

Would this business be able to pay off the mortgage in 1941 if profits of $12,000 were earned during that year?

6. (a) From the following information make up a work sheet for B. Janes as of December 31, 1944:

Cash	$ 20,000	
Notes Receivable	8,000	
Accounts Receivable	30,000	
Reserve for Doubtful Accounts		$ 6,000
Merchandise Inventory, Jan. 1, 1944	20,000	
Prepaid Insurance	500	
Stationery and Office Supplies	200	
Sales Department Equipment	3,000	
Reserve for Depreciation of Sales Department Equipment		2,000
Delivery Equipment	6,000	
Reserve for Depreciation of Delivery Equipment		1,500
Buildings	28,000	
Reserve for Depreciation of Buildings		10,000
Land	7,000	
Notes Payable		5,000
Accounts Payable		10,000
Unearned Rent		2,000
B. Janes, Proprietorship		90,000
B. Janes, Personal	3,000	
Sales		150,000
Sales Returns and Allowances	2,000	
Sales Discounts	2,000	
Purchases	110,000	
Purchase Returns and Allowances		2,200
Freight and Cartage In	3,000	
Sales Salaries	12,000	
Sales Traveling Expenses	8,000	
Advertising Expenses	3,000	
Delivery Expenses	4,000	
Office Salaries	5,000	
Sundry Office Expenses	2,000	
Tax Expense	3,000	
Purchase Discounts		1,000
	$279,700	$279,700

Information for the adjusting entries, period one year. Inventory, December 31, 1944, $18,000; depreciation of sales department equipment, 10 per cent per year; depreciation of delivery equipment, 25 per cent per year; bad debts, 0.5 per cent of sales; interest accrued on notes receivable, $200; unexpired insurance $300; stationery and supplies on hand $150; unpaid taxes $600; unpaid interest on notes payable $100; the unearned rent was $1,500.

(b) Make up a balance sheet and statement of profit and loss.

(c) Determine the working capital and current ratio.

CHAPTER XVII. THE USE OF REVENUE AND EXPENSE DATA

Parties Interested in Revenues and Expenses. The information provided by the revenue and expense accounts is used by:

The creditors	Labor
The investors	The management
The government	

The creditors, the investors, and the government (except the income tax unit) seldom utilize more data on revenue and expenses than that presented on the statement of profit and loss. They may compare the results for different periods, but seldom seek more detailed information.

Labor, a newcomer among the users of the revenue and expense data, is interested in profit or loss, and many unions are investigating the methods by which employers compute profit or loss. They investigate depreciation charges, inventory costs, and other costs that might affect the profits. They investigate the relationship of labor costs to total costs and to profits, and the effect of wage changes on costs and on profits.

The management makes greater use of revenue and expense data than any of the other parties. Managers of stores, factories, and institutions receive many different types of reports concerning revenue and expense. Reports may be prepared daily to provide information on sales by lines, by territories, and by salesmen, on receivables, on collections, on cash, etc. Management is continuously planning, checking results with the plans, and revising plans. A business enterprise is always changing; it is never static. Not only are internal changes continuous but markets and business conditions are always changing. Evidence of these changes is usually found in the revenues and expenses of the enterprise. The executive must ever be on the alert, watching for such evidence, and ready to adapt the business to new conditions.

By preparing reports and interpreting revenue and expense data, the accountant can render one of his most valuable services to the management of an enterprise. No particular type of statement or statements will provide all the information required by the management. Different types of statements must be prepared to present such different kinds of information as may be useful in each individual case. Much of this work will require research into the characteristics of the expenses of the enterprise.

There are different concepts of costs and expenses, and these different concepts must be used to provide different types of information. Among these concepts of costs and expenses are:

Unit costs or unit expenses	Direct and indirect costs or expenses
Fixed and variable costs and expenses	Out-of-pocket costs and expenses

Increment and decrement costs and expenses

Unit Costs or Expenses. A unit cost is that portion of the costs which applies to a particular unit. The most common unit is a product or a unit of a product. If the unit to which the cost applies is unsold, the amount is a cost. If the unit has been sold, the amount is an expense. The term *unit cost* is ordinarily used for both unit costs and unit expenses.

When there is more than one unit, for instance, several products, departments or territories, the costs of each unit cannot be exactly determined. To illustrate, let us consider the costs of a department for men's shoes and another for women's shoes. The cost of goods sold can be determined for each of the two departments, but the rent, the heat, the light, the manager's salary, the office expenses, and the depreciation of some furniture and office equipment are costs of both departments. The same is true of other units, such as territories or products. Enterprises which sell in different territories usually determine sales, costs, and profits by territories; the territory then is the unit. There are certain expenses for which a territory alone is responsible, and others like head office expenses, that apply to more than one territory.

The executives of a factory that produces six different products would want to know the costs of each of the six products. In addition they would probably want to know the cost of each unit of a particular product. Let us assume that the costs of each of the six products are computed, and the costs of one product, chairs, amount to $100,000. If 50,000 chairs were produced, the cost of each chair would be $2. Two unit cost computations would be made to determine these costs. First, each of the six products is treated as a unit in order to arrive at the costs of each product. Next, the cost of each chair is computed, and the cost of the chair becomes a unit cost. Thus *the unit may be the entire quantity of a particular product, or a unit of a particular product. In fact, it may be any measurable unit; it may be a territory, a department, or a salesman.* Department stores determine the costs of each department and sometimes the cost of each major line within a department. Wholesale firms determine the costs of particular territories and products.

One may ask, of what use are unit costs? They are particularly useful to persons who make decisions which affect the long-run operations of the business; they provide data concerning the high-profit items, the low-profit items, and the losing items. A reasonably accurate approximation

of the costs results in a fair approximation of the cost of the goods and services used up in producing and selling different products. Some products may be responsible for a high proportion of the goods and services used, while other products may be responsible for a small proportion of the goods and services used. Reasonably accurate unit costs will help the management to foretell results if the effort devoted to certain units is increased, and to decide where effort can be most profitably directed.

Wholesalers and manufacturers make extensive use of unit cost data. They find the approximate cost of the goods and services used in producing other goods or in providing other goods for sale. In this way they can determine their high-cost and low-cost lines, and the margin of profit obtained on each line. This information may be given to salesmen to show them which lines they should "push"; it may lead to investigations as to the possible elimination of lines, and may also be used to obtain the cooperation of salesmen in eliminating unprofitable lines and products.

Fixed and Variable Expenses. The term *fixed* as applied to expenses may be used in two ways. The fixed expenses may be considered to be those expenses which remain relatively unchanged whether the business operates or shuts down. On the other hand, the term may be used from the operating viewpoint. *The fixed expenses may be considered to be those expenses, or the portions of expenses, which remain relatively unchanged in total amount regardless of the volume of business.* It is in this latter way that the term fixed expenses will be used in this volume. Examples of these expenses are depreciation, insurance, taxes, the salaries of executives, the cost of light and heat, and many others. Frequently a part of some of these expenses may be fixed whereas another part will vary in some way with the volume of production.

Variable expenses are those expenses, or the portions of expenses, which vary in total amount with the volume of business. Examples of such expenses are those for power, wages, supplies used, and commissions. The entire amount of these expenses may not be variable, and of the amounts that are variable different expenses may vary in different ways with changes in the volume of sales and production. A certain part of the power cost may be relatively fixed; when an enterprise produces its own power a certain basic cost is required for firing the boilers and producing a minimum amount of steam. To produce additional steam would require additional cost, which may vary closely with changes in the volume of production. A store may require a certain minimum number of clerks as long as it operates. Each new clerk added would be able to handle a certain increase in sales, and although this expense would increase by steps, it would usually vary closely with sales.

Now the question should be answered as to why a business enterprise should be interested in the distinction between its fixed and variable

expenses. Information obtained as a result of this distinction may be used in many ways—for example, in determining price policies, in planning and coordinating the activities of the business, and in determining how profits vary with different volumes of business. (Price policies will be discussed later in this volume; the planning and coordinating of the activities of an enterprise will be commented upon in this chapter, and will be covered more thoroughly later.)

How fixed and variable expenses may be used will be illustrated by the following example. The fixed expenses of an enterprise are approximately $100,000, and the variable expenses amount to 60 per cent of sales. The profit on a sales volume of $300,000 would be approximately $20,000, determined as follows:

Sales	$300,000
Variable Expenses	180,000
	$120,000
Fixed Expenses	100,000
Operating Profit	$ 20,000

If the sales increased to $600,000, and the relationships remained the same, the profit would be $600,000 minus $360,000 minus $100,000, or $140,000. Twice the volume of sales would increase the operating profit sixfold. The additional sales volume of $300,000 would add $120,000 to the operating profit of $20,000. The increase in the operating profit is so great because fixed expenses are a high proportion of total expenses.

This business would break even when the volume of sales was $250,000. This is determined as follows: The variable expenses are 60 per cent of sales, therefore the fixed expenses are 40 per cent of sales when there is no profit. If the fixed expenses are $100,000, the break-even point will be $100,000 divided by 0.40, or $250,000.

Or, if one prefers algebra, let X equal the volume of sales at which the business will break even. When the variable expenses are 60 per cent of sales and the fixed expenses are $100,000, the break-even point would be determined as follows:

At the break-even point the operating profit is 0.

$$\begin{aligned} 0 &= X - 0.60X - \$100{,}000 \\ 0.40X &= 100{,}000 \\ X &= \frac{100{,}000}{0.40} \\ &= \$250{,}000. \end{aligned}$$

The fixed and variable expense concept is particularly useful in making estimates of expenses for different volumes of sales. To illustrate, let us consider the expense relationships of the Milton Store. The profit and loss

statement for this enterprise for the year 1942 follows, along with data on the relationship of the expenses to sales.

Milton Store

Statement of Profit and Loss
Year ending December 31, 1942

		Percentage of Expenses to Sales
Sales	$90,000	
Cost of Goods Sold	54,000	60
Gross Margin	$36,000	
Selling Expenses		
Sales Salaries	$ 9,000	10
Delivery Expenses	3,600	4
Advertising	2,700	3*
Supplies Used	900	1
	$16,200	
General and Administrative Expenses		
Manager's Salary	$ 5,000	Fixed
Office Salaries	2,800	Fixed
Heat, Light	900	Fixed
Depreciation	700	Fixed
Office Supplies	450	0.5
Sundry Expenses	900	1
	$10,750	
Total Expenses	$80,950	
Operating Profit before Federal Taxes	$ 9,050	

* For additional volume, advertising expenses will increase only 50 per cent of this ratio.

It is estimated that the sales for 1943 will amount to $120,000. Based upon the above relationships of expenses to sales, the estimate of revenues and expenses for 1943 is made up as follows:

Milton Store

Estimated Operating Revenues and Expenses
Year Ending December 31, 1943

Sales	$120,000
Cost of Goods Sold	$ 72,000
Selling Expenses	
Sales Salaries	$ 12,000
Delivery Expense	4,800
Advertising	3,150
Supplies	1,200
	$ 21,150
General and Administrative Expenses	
Manager's Salary	$ 5,000
Office Salaries	2,800
Heat, Light	900
Depreciation	700
Office Supplies	600
Sundry	1,200
	$ 11,200
Total Expenses	$104,350
Operating Profit before Federal Taxes	$ 15,650

During 1943 a continuous record of the sales would be kept, and it would be determined whether or not the estimated sales were being obtained. If sales were below the estimated volume and could not be brought up to that amount, steps would be taken to control the expenses, that is, to bring the expenses to the proper amounts for the new volume. This requires that the variations from the estimates be determined and analyzed, and that the proper changes be made. An attempt is made to control the expenses through the relationships worked out between the expenses and sales.

The terms *controllable* and *noncontrollable* expenses are used synonymously with the terms *variable* and *fixed* expenses, respectively. The *controllable expenses* are those expenses which can be reduced as sales or production decrease. The *noncontrollable expenses* are those expenses which remain relatively the same, regardless of the volume of sales or production. However, since some control may be exercised over the fixed expenses, especially over unwarranted increases, all the expenses should be considered to be controllable to some extent even though the control may be indirect.

Expenses are controlled by persons; they cannot control themselves. To provide adequate control over expenses, we must classify them according to the persons responsible for them. All the expenses for which the sales manager is responsible would be classified as selling expenses. The expenses of the purchasing department would be classified as purchasing expenses. For this purpose expenses would seldom be classified the same in two different enterprises, but an idea of this method may be obtained from the following classification:

Purchasing	Shipping	Executive
Production	Accounting	Personnel
Selling		

The preceding classification is based on the assumption that the enterprise employs seven major executives. The expenses over which each executive has control, and the expenses resulting from the use of space and equipment by his department, would be considered expenses for which he is responsible. The sales manager would be responsible for all the expenses of his department, including the depreciation, taxes, and insurance on space and equipment used by the sales department. Some people do not consider depreciation, insurance, and taxes as expenses over which an executive has control; they believe these expenses should be the responsibility of the chief executive rather than of his subordinates. There is considerable force to this argument, especially when the expenses enter into bonus computations. In many instances the depreciation charged to an executive's department has been arbitrarily increased when his bonus became high. There is no justification for such a practice. For discussion purposes, we must assume that the chief executive knows enough about

handling people to realize that unless he is fair to his subordinates they will have little incentive to do their best. Good management will consider depreciation, insurance, and taxes as expenses over which an executive has control. He has control over these expenses indirectly—he can control the amount of the space and equipment used. The Jewel Tea Company[1] has had very good results from this policy. This company has found that office executives do not demand additional space or equipment unless they are reasonably certain that they can use it advantageously.

This policy of classifying expenses according to the persons responsible for them would be carried still further for management purposes. The accounting expenses might be grouped around the minor executives in the department. These expenses might be divided into such groups as payroll, billing, stenographic, and filing expenses.

It is not always possible to identify all the expenses of a business with persons. This is particularly true of certain costs which enter into the cost of goods sold computation. Examples of these are the invoice cost of the merchandise and the freight in. These plus the purchasing expenses would enter into the cost of goods sold computation.

Direct and Indirect Costs. *The direct costs of a unit such as a product, a territory, a department, or a salesman are the costs for which that unit alone is reponsible. The indirect costs are the costs that apply to more than one unit, whatever that unit may be.*

The direct costs of a department of a store are the costs of goods sold, the salaries of salespeople who sell in that department alone, and any other costs for which that department alone is responsible.

Indirect costs would be such costs as office expenses, delivery expenses, the salaries of the general manager, and the costs of the personnel department.

The direct costs of a territory are those costs for which that territory alone is responsible. The cost of the goods sold in that territory, and the salaries, commissions, and traveling expenses of salesmen selling in that territory alone are direct costs of that territory. The same is true of costs resulting from equipment used in that territory. Indirect costs of a territory would be the salaries of the general manager and the sales manager of the company, and other head office costs.

What would be the direct costs if one unit were chosen might be indirect costs if another unit were used. For example, some costs that are direct costs of a department would be indirect costs of a line of goods within that department. The salary of the manager of the men's clothing department of a store would be a direct cost of that department, but would be an indirect cost of a line of overcoats.

[1] J. H. McDonald, *Office Management*, Prentice-Hall, Inc., New York, 1941, p. 461.

Out-of-Pocket Costs as Distinguished from Book Charges. Out-of-pocket costs are those costs for which payment must be made during, or soon after, the end of an accounting period. These costs will soon deplete the cash, and are distinguished from the so-called *book charges*, which are costs like depreciation that are not paid in cash in the immediate future. Eventually, however, depreciation results in the disbursement of cash in order to replace the equipment—if it is to be replaced. But for a considerable period of time no disbursement may be required for this purpose. The out-of-pocket costs of West Coast lumber companies are from 80 to 85 per cent of their total costs. The cost of the timber used is an out-of-pocket cost for companies that buy their timber, but it is not an out-of-pocket cost for those companies that own their timber.

Out-of-pocket costs may be either fixed or variable. Property taxes, insurance, rent, and some salaries are relatively fixed. Wages, supplies, and many other out-of-pocket costs are variable. Most book charges are fixed costs, but depletion of timber owned by a lumber company, which is a book charge, is a variable cost.

When the revenues exceed the out-of-pocket expenses an enterprise may operate at a loss for many years and yet maintain its cash and other liquid assets. In fact there are always many companies in existence that are gradually liquidating their business in this way.

Computations of the out-of-pocket costs may be important when considering whether to replace old machines. The entire cost of the new machine is an out-of-pocket cost, but cost of the old machine is not such a cost. This computation will be discussed in more detail in Chapter XXVII.

The most common book charge of practically all companies is depreciation. Its importance is evidenced by the fact that almost all published statements of profit and loss show the depreciation either as a separate item or in a footnote to the statement of the profit and loss. Frequently published statements show the profit before and after depreciation. The following statement is made up in this way:

Rayonnier, Inc.

Statement of Profit and Loss
For the Year Ended April 30, 1941

Sales, less Freight, Marine Insurance, and Discounts		$25,154,296.88
Cost of Sales, exclusive of Depreciation and Depletion		14,809,805.52
Gross Profit before Depreciation and Depletion		$10,344,491.36
Selling, Administrative, and General Expenses, exclusive of Depreciation and Depletion		826,021.34
Profit before Depreciation and Depletion		$ 9,518,470.02
Depreciation	$1,484,549.26	
Depletion	61,983.46	1,546,532.72
Profit from Operations		$ 7,971,937.30

Other expenses, net:		
Interest and Premium on Notes Payable and Unamortized Financing Expense, less Interest Earned	$ 253,786.15	
Abnormal Losses on Retirement of Plant Assets, less $70,006.71 excess of Insurance Proceeds over Net Book Value of Plant	177,460.94	
Expenses in Connection with Projects Abandoned	54,090.63	
Miscellaneous	5,768.10	
	$ 491,105.82	
Less Other Income, including $62,525.13 refund of state fuel oil taxes	75,039.11	416,066.71
Profit before Federal Income Taxes		$ 7,555,870.59
Federal Income Taxes: Normal Tax	$1,825,000.00	
Excess Profits Tax	1,725,000.00	3,550,000.00
Net Profit		$ 4,005,870.59

Illustration of Statement of Profit and Loss. The statement of profit and loss may be made up in such a way as to bring out different expense characteristics.

The expenses may be classified to segregate the variable expenses, the fixed expenses, the out-of-pocket expenses, and the book charges. The following statement accomplished this:

The Fashion Craft Company

Statement of Profit and Loss, Showing Fixed and Variable Expenses
Year ended December 31, 1941

Sales		$68,300
Variable Expenses:		
Cost of Goods Sold	$42,000	
Sales Salaries	4,200	
Advertising	3,600	
Sales Supplies Used	1,500	
Insurance on Merchandise	80	
Office Supplies Used	30	
Bad Debts	450	51,860
Net Margin before Fixed Expenses		$16,440
Fixed Out-of-Pocket Expenses:		
Rent	600	
Office Salaries	200	
Heat and Light	60	
Executive Salaries	500	1,360
Net Margin after Out-of-Pocket Expenses		$15,080
Book Charges:		
Depreciation		1,800
Operating Profit		$13,280

This statement provides the following data:

The variable expenses
The net margin before the fixed expenses
The out-of-pocket fixed expenses
The net margin after the out-of-pocket fixed expenses are deducted
The book charges
The operating profit.

If any of the variable expenses were not out-of-pocket costs, as is often true of depletion, the variable expense classification would include only the out-of-pocket variable expenses. The variable expenses which were book charges would be shown in the classification for book charges.

The amount of the bad debts, although a book charge, is usually included with the variable expenses, because the effect of bad debts is soon reflected in the cash of the enterprise.

From a statement like that illustrated and from percentage relationships computed from it, the management can determine the volume of sales at which the enterprise will break even; the volume at which it will cover its out-of-pocket costs but not its book charges; and the volume at which it will cover its variable costs but not its fixed costs. This information may be very useful to the management in making many decisions.

Increment and Decrement Costs or Expenses. *Increment costs are added costs—those costs which are added when some particular unit is added.* The added unit may be a product, a department, a territory, an added volume of total sales, an added volume of sales of a particular product, etc. Increment costs when incurred are ordinarily out-of-pocket costs.

Increment costs may be considered a special case of direct costs, as they are direct costs of the increment added. If a product were to be added, the added costs would be direct costs of that product.

Increment costs may be fixed or variable. If the increment necessitates the purchase of a machine, fixed costs such as depreciation, insurance, and taxes arise. On the other hand the costs of labor and materials required because of the increment are usually variable costs.

To illustrate increment costs, let us consider the addition of a new product to a line. This product would probably require additional costs for the merchandise and the salaries or wages of any employees added because of this product, and it might result in some changes in the indirect expenses, such as insurance, taxes, heating, and office salaries. On the other hand, the addition might cause an increase in the direct costs only; the indirect costs might remain unchanged. Finally, there are instances where the addition of a product might result in no increase in some of the direct costs. For example, a new product might be added to a line with no additions to the sales force required.

Once the added costs are incurred, they might be such that they could not be eliminated if the product were eliminated. If special equipment which could be used for no other product and which had little resale value were purchased for the added unit, this cost could not be eliminated if the unit were eliminated. Thus the costs that could be eliminated if a unit were eliminated may not be the same as those that were added when the unit was added. To describe such costs, we shall use the term *decrement costs.*

The increment and decrement cost concepts are used in making many managerial decisions. When the management is considering whether or not the addition of a product, a territory, or a certain volume of business will contribute to profits, the important comparison is that of the added costs as compared with the added revenue. If the added revenue is greater than the added costs, the product is contributing to the profits.

When the elimination of a product is being considered, the decrement costs are important. The computation to determine the effect on profits would require a comparison of the costs that could be eliminated with the amount of revenue lost. For example, the elimination of product A, which provides sales of $35,000 a year, is contemplated. The cost of the goods sold as product A was $30,000. Product A was charged $3,000 for space used, 25 per cent of the time of a salesman whose salary was $4,800, and other expenses of $4,000. To determine the effect of its elimination on the profits, we should determine the revenue lost and the expenses that could be eliminated. If the warehouse space were needed for no other purpose, if no reduction could be made in the salesman's salary of $4,800, and if the other expenses of $4,000 could be reduced only $1,000, the only expenses that would be reduced if product A were eliminated are: the cost of product A of $30,000, and the other expenses of $1,000. Thus the amount product A contributes to the profit would be computed as follows:

Sales		$35,000
Less:		
Reducible Expenses		
Cost of Product A	$30,000	
Other Expenses	1,000	31,000
Contributed to operating profit		$ 4,000

Thus, product A actually contributed $4,000 to the profits of the enterprise.

To illustrate further, let us consider the Brighton Store which sells men's, women's, and children's shoes. The following is a typical statement of profit and loss for the children's shoe department:

Children's Shoes

Statement of Profit and Loss
Year ended December 31, 1941

Sales		$16,000
Cost of Goods Sold		9,600
Gross Margin		$ 6,400
Less Operating Expenses		
Sales Salaries	$3,200	
Rent Expense	1,800	
Office Expenses	1,200	
Insurance and Taxes	300	
Supplies Used	200	
Sundry Expenses	500	7,200
Operating loss		$ 800

The operating loss on children's shoes, as shown by this statement, is $800. Since year after year this product has shown a loss, it was thought desirable to eliminate this department. Should this be done? We do not know from this statement alone; factors other than cost factors would enter into our decision.

But considering the cost data alone, we should not jump to conclusions. If this department were eliminated and the revenue could not be obtained from other departments, the profits of the enterprise would not be increased $800. The effect upon profits depends upon what will happen when the line of shoes is eliminated. Can all the expenses of that department be eliminated? Can sales salaries be reduced $3,200, rent $1,800, office expenses $1,200, insurance and taxes $300, supplies $200, and sundry expenses $500? If they can, the loss of $800 can be eliminated. That this can be done is quite unlikely. Take the one item, rent, alone. Unless the location is changed it will be very difficult to reduce the rent $1,800 a year. If the rent cannot be reduced, the enterprise will make more profit by keeping the children's shoes department. In addition it is very unlikely that the sales salary expense, the office expense, etc., can be entirely eliminated.

The proper approach to the cost aspect of this problem is to determine the expenses that can be eliminated if the unit is eliminated. These expenses deducted from the revenue received from this unit will give an approximation of the effect of the change upon the profits of the enterprise.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. For the purpose of computing unit costs, what is a unit?

2. The Weston Department Store had the following departments: groceries, men's department, ladies' wear, and hardware. How would this store determine the costs of the hardware department?

3. Give two different definitions of fixed costs.

4. Define variable costs.

5. The fixed costs of railways and public utilities are very high. What would be the effect on unit costs of a substantial increase in revenues?

6. The fixed costs of the Wilmington Company were $200,000. Sales were 25,000 tons. The variable costs were $4 per ton. What was the cost per ton? If the variable costs remained $4 per ton, what would the unit cost be for sales of 50,000 tons? Of 75,000 tons? Of 100,000 tons?

7. The Wearwell Company had fixed costs of $50,000. The variable costs were 50 per cent of sales. At what volume of sales would the Wearwell Company break even?

8. How are fixed and variable costs used in estimating costs for different volumes of sales.

9. Define direct costs. Indirect costs.

10. A food broker had the agency for Imperial Baking Powder, Quick-Set Jela, and Select Tea. Salesmen sold these products to retail stores; each salesman sold the three lines. A warehouse was rented where a stock of the products was stored. What costs would be direct costs of each line? What costs would be indirect costs?

11. Define out-of-pocket costs.

12. Are variable costs and out-of-pocket costs the same?

13. The Continental Fibre Company showed losses each year of the depression, yet it had more working capital at the end than at the start of the depression. No fixed assets were sold, no fixed liabilities were increased, nor did the owners invest any additional capital. How do you account for the increased working capital?

14. Several years ago you paid cash for a car. What are your out-of-pocket costs of operating that car?

15. Define increment costs.

16. Distinguish between the average cost of answering a fire alarm and the actual cost of answering a particular alarm.

17. Refer back to question 10. The food broker was contemplating the addition of a line of Numake Coffee. This product would be stored in the same warehouse, sold by the same salesmen, and delivered by the same trucks. What would be the costs added by this line?

18. Are decrement costs the reverse of increment costs?

19. A. B. Neil operated the Burton Apartment Garage. His chief revenues were received from storing, washing, oiling, and greasing cars. Mr. Neil and a helper worked the day shift. There was not quite enough work for Mr. Neil and his helper, but there was too much work for Mr. Neil alone. Another man who was idle a large part of the time worked the night shift. Both Mr. Neil and the night man were mechanics. Mr. Neil decided to do a limited amount of repair work so that he and the night man could keep busy. He notified the owners of the cars stored in his garage that he would quote them very reasonable prices for routine repairs, such as lining brakes, grinding valves, and installing new rings. He did not want to make emergency repairs that might require additional help. Mr. Neil set prices that caused some of his competitors to claim that he was not covering his costs. Why would this accusation arise?

20. The D. D. Merrey Store which was going to place an order for 100,000 men's shirts approached the Benton Shirt Company with the proposition that they would place the entire order with them to be manufactured during the dull season of the Benton Shirt Company. The D. D. Merrey Store stated that they would pay the Benton Shirt Company the costs of materials and labor, which amounted to 85 cents per shirt, plus 15 per cent. The Benton Shirt Company estimated that its indirect expenses were 30 per cent of the cost of the materials plus the direct labor. Would the Benton Shirt Company lose money on this order?

21. Before the Robinson-Patman Act was passed one large purchaser of automobile tires purchased tires for the cost of labor and materials plus 6 per cent for overhead. This 6 per cent was much less than the actual percentage of indirect expenses. Why did the manufacturer of tires make sales at such low prices?

22. The Marine Star Shipping Company operated five old ships on a regular run. The revenue for a typical run averaged $60,000. The out-of-pocket costs averaged $50,000. The depreciation was estimated to be $12,000. The average loss per run was $2,000. Why did the company continue to operate these ships? Why did it not sell these ships and purchase new ships which were more economical to operate?

LABORATORY PROBLEMS

1. (a) The Mid-West Products Co. produced 1,000 REX machines during 1940. The materials cost $200,000, and the labor cost was $600,000. The indirect expenses of

manufacturing the machines amounted to $300,000. What was the average cost of each machine? What was the average cost of labor per machine? Of materials?

(b) If the Mid-West Products Co. had the opportunity to bid upon an order for 200 machines, what price must the Mid-West Products Co. receive to break even on the additional volume if the materials and direct labor will remain the same per unit, and the indirect expenses will increase $10,000?

2. (a) The Lumber Products Co. operated at a loss of $30,000 during 1937. The following is an abbreviated statement of profit and loss for this company for the year 1937:

Sales	$500,000
Total Costs	530,000
Operating Loss	$ 30,000

The costs included depreciation of $28,000, insurance on buildings and equipment $3,000 and taxes of $4,000 which would not be eliminated if the enterprise were shut down. Should the business continue to operate? Base your decision upon the given cost data alone. Are there any other factors to consider when making such a decision?

(b) The fixed expenses of the General Products Co. amount to $100,000. The remainder of the expenses vary in direct proportion to sales. For example, when sales amount to $300,000 the fixed expenses are $100,000 and the variable expenses $180,000, a total of $280,000. Determine the profit or loss when the sales amount to $500,000. Determine the dollar volume of sales at which the business will break even, that is, the volume at which there will be no profit or loss.

3. Mr. A. R. Hurley, who was opening a ladies' ready-to-wear store, made the following estimate of his expenses and of certain other expenditures that would be necessary. These were:

Rent, $350 a month.
Office clerk, $80 a month.
Dressmaker, $70 a month.
Heat, light, and power, $30 a month.
Traveling expenses, $500 each year, for two buying trips to New York.
Buying agency in New York, $75 a month, to make purchases between buying trips.
Telephone and telegraph, $20 a month.
Improvements to buildings, $2,600. These costs were for paneling the inside of the store, the construction of dressing rooms, and improvements to the front of the building and the windows.
Rugs, davenports, and chairs, $600.
Desk, chairs, and filing cabinet, $250.
It was estimated that the cost of the following would amount to 4 per cent of sales: sales supplies used, office supplies used, delivery expenses, bad debts, credit and collection expenses, and sundry general expenses.
Sales salaries would be approximately 5 per cent of sales.
Advertising expenses would be approximately 2 per cent of sales.

Merchandise was marked up 33⅓ per cent of sales or 50 per cent of cost; *i.e.*, merchandise costing $100,000 was marked up to sell at $150,000.

Mr. Hurley considered that the rugs, davenports, and chairs would have to be replaced at the end of 4 years, and that the improvements would also have to be replaced at that time.

The desk, chairs, and filing cabinet used in the office would last 10 years.

(a) Assuming that all the expenses are fixed unless otherwise stated, what profit would the business make if the sales amounted to $75,000 a year?

(b) What annual volume of sales would be required for the business to break even?

(c) What annual volume of sales would be required to cover the out-of-pocket costs only?

4. The Union Store is operating a delivery truck which costs, exclusive of labor and depreciation, $45 a month to operate; the depreciation is $30 a month, a total of $75 exclusive of labor, for operating the truck for one month. A new truck can be purchased for $1,300. This truck would be used for 4 years, after which its trade-in value would be $300. The cost of operating this new truck, exclusive of depreciation, would be $38 a month. The old truck was in good condition and of good appearance but because of its age would sell for only $150. The labor cost for operating each truck would be $200 a month. Considering no factor other than the foregoing costs, should the new truck be purchased?

5. The following was a typical statement of profit and loss of the Wenton Products Co.

Sales	$258,300
Cost of Goods Sold	175,000
Gross Margin	83,300
Expenses, Exclusive of Depreciation	58,000
Operating Profit before Depreciation	25,300
Depreciation	45,000
Operating Loss	$ 19,700

The plant of the Wenton Products Co. had originally cost $900,000, and depreciation of $450,000 had been credited to the reserve account. The remaining life of the plant was considered to be 10 years. If sold, the building, machinery, and equipment would bring little more than its scrap value, a liberal estimate of which was $30,000. Some of the executives believed that the old plant and equipment should be scrapped and a new plant built either on the same site or at a near-by location which could be acquired. With the new plant, production costs, exclusive of depreciation, could be reduced 15 per cent. The new plant would cost $1,130,000 and should have a life of 20 years, after which it would probably be obsolete, and worth little or nothing. The only objection to the original plant was its high production costs. The plant provided plenty of space and its product was equal in quality to any on the market.

On the basis of the given facts, considering no other factors, do you think the plant should be replaced?

6. The Loomis Manufacturing Co. produced a highly competitive product. Its production averaged 100,000 units each year. The cost of the product, exclusive of depreciation of $50,000, amounted to $200,000. The product sold for $2.55 per unit. Sales were decreasing because competitors were offering a competitive product at from $2.25 to $2.40 per unit. By hard work the salesmen had been able to hold most of the customers, but these customers believed that the prices of the Loomis Manufacturing Co. were too high, and they were becoming impatient because prices had not been reduced. The sales department stated that prices must be reduced or much of the business would be lost. The general manager objected to a reduction in prices, claiming that the product was now sold close to cost, therefore no further price reductions could be made. Which policy would you follow? Explain.

7. Refer to Practice Set 1. Do (h), (i), (j), (k), (l), and (m) of part I, and (h), (j), (k), and (l) of part II.

CHAPTER XVIII. MATCHING COSTS WITH REVENUE

Revenue, Sales Returns and Sales Discounts, Inventory Costs, Purchase Discounts, Selling Expenses, and General and Administrative Expenses

Recording Revenue. *Revenue is recorded when goods are delivered to the customer or his agent, a common carrier: i.e., a railway, steamship company, etc.* This practice has been followed in accounting because on delivery:

The title passes to the customer
The services have been practically all rendered
The working capital is increased.

Only in exceptional cases will the accountant record revenue before delivery of the goods. This is done frequently in accounting for revenue in stores, but only because the goods are in the process of delivery. In rare instances a factory may record revenue before delivery, but only when it has a contract for the sale of the goods, the goods are ready for delivery, and to do otherwise might distort the period to period profits. For example, a factory might be working on a large contract for the manufacture of men's shirts, thousands of which were in the warehouse ready for delivery. If the revenue for these shirts was not recorded until the subsequent accounting period the profits of the two periods might be badly distorted. Under such circumstances the revenue would be recorded before delivery.

The services must be practically all rendered before revenue is recorded. An enterprise may have a contract for the sale of goods, but unless the goods have been manufactured and prepared for delivery, revenue would not be recorded.

Finally, most accountants require that a claim for cash or other current assets be obtained, otherwise revenue should not be recorded. For example, if the enterprise exhanged goods and agreed to accept a machine as consideration, this transaction would not be recorded as a sale. On the other hand, it may be argued that this transaction should properly be recorded as a sale. Ordinarily an enterprise would not accept consideration other than cash or a claim for cash unless it needed whatever was received. Certainly if a machine were received which was needed by the enterprise

its receipt would be the equivalent of the receipt of cash and the use of the cash to purchase the machine.

Sales Returns and Allowances, and Sales Discounts. The reader is already familiar with the conventional method of recording both sales returns and allowances and sales discounts, which is recording them in the period in which the return or allowance is made or the discount taken. This practice is ordinarily satisfactory even though some deductions are recorded in periods other than those in which the revenues are recorded. For example, some sales discounts recorded in January 1944 should have been deducted from the 1943 sales, and some sales discounts that should have been deducted in December 1944 will not be deducted until January 1945. Because of these offsetting discounts a satisfactory matching of discounts with revenue may be obtained. However, the accounts receivable are overstated by the amount of these discounts, and the practice of permitting this can only be justified when the amounts are small.

When the amounts of the discounts are large or vary, the discounts should be better matched with revenues by recording them exactly as bad debts are recorded. At the end of each accounting period an entry is made as follows for the discounts on the total sales for the period:

Sales Discounts	xxx	
Reserve for Sales Discounts		xxx
To record discounts on sales for 19xx		

Then when the discounts are taken the debit is made to the reserve account instead of to Sales Discounts. This method of handling sales discounts is not unusual, numerous companies using it.

Exactly the same theory may be applied to sales returns and allowances. However, since this method is practically never used we shall not discuss it further here.

Inventory Costs. It might be desirable to allocate less than a proportionate amount of the costs incurred for the goods available for sale to the inventory; and conversely, it might be desirable to record a greater than proportionate amount of these costs as the cost of the goods sold. This is particularly true when excess stocks of merchandise are carried to provide the customer with an opportunity to make a selection to suit his or her own peculiar needs, as with style goods. For example, the entire stock of women's hats seldom is sold by a store, some being on hand at the end of the accounting period that could not be sold at any price. However, the entire stock was needed in order to make the sales for the period possible. The merchandise managers had to provide a variety of hats for the customers, knowing all the time that a percentage of them would not sell. Obviously it would not be sound accounting practice to record only the exact cost of the hats sold as the cost of the sales for the period, and to

record the cost of the unsold hats as an asset. Such a practice would result in an overstatement of the profit for the period and in a balance sheet that could easily be misleading because of the overstatement of the inventory cost.

The cost of the inventory of hats on hand might be considered in whole, or in part, as a proper cost of the sales of the current accounting period. Next period, the hats in the inventory will in all probability be out of style and sell for very little. The sound policy to follow both from the standpoint of the statement of profit and loss and the balance sheet is to defer only a reasonable portion of the costs, and that reasonable portion might even be zero. (Many merchandisers meet this problem by reducing prices and selling their stock at the end of the season for anything it will bring. Consequently they have no such inventory to carry over.)

The preceding remarks relate to the ordinary inventories of an enterprise and not to excess inventories purchased for speculative purposes. Such excess inventories are carried, not to provide customers with the proper selection or service, but to make profits from price increases. Frequently it is found that a mistake was made, prices have decreased, and a loss is sustained or will soon be sustained. *The loss from such excess inventories should be treated not as an operating loss for the period but as a loss unrelated to the revenue of the period, that is, as a nonrecurring deduction on the statement of profit and loss.*

The practice of allocating a greater than proportionate amount of the costs to the current accounting period is exemplified in the *conventional rule in accounting, known as the cost or market, whichever is the lower, rule.* Under this rule the portion of the cost to be allocated to the current accounting period is determined by recording the final inventory at its cost or market price, whichever is the lower. *"Market" is used to mean the cost of replacing the goods, not the sales price of the goods.* For example, an inventory which cost $5,000 would be recorded at this amount when the replacement cost was $6,000, and at $4,500 when the replacement cost was $4,500, and this would be true even if the inventory could be sold for $5,500. Frequently the effect of this rule is to understate the profit of the current period and to understate the inventory on the balance sheet. There would seem to be no justification for the indiscriminate application of this rule; certainly when the inventory can be sold at a profit it would seem undesirable to record it at its replacement cost simply because this cost is below actual cost. Ordinarily it is better to use actual costs.

Still other problems arise in recording inventory costs. Should these costs be determined on the assumption that the units first received were first sold, should an average cost be used, or should the units first received be assumed to be sold last? To illustrate, let us assume that the following purchases were made: 100 units at $1 per unit, 100 at $1.50 per unit, and

100 at $2.00 per unit, and that there were 100 units in the final inventory. Under the first-in, first-out rule the inventory cost would be considered to be $2 a unit or $200. Using the average cost, the inventory cost would be taken as $1.50 a unit or a total of $150. Using the last-in, first-out rule, the inventory cost would be taken as $1 per unit or $100.

From a theoretical standpoint the accountant would prefer to use the *first-in, first-out rule* because it results in the most recent costs being recorded as costs of the final inventory.[1]

The *average cost method* does not record the most recent costs but is satisfactory if costs have not changed greatly during the period.

The *last-in, first-out method* is becoming quite popular, as the Bureau of Internal Revenue is now permitting any company to use it for income tax purposes. Under this method it is assumed that the goods purchased last were sold first and the final inventory is recorded at the cost of the first units instead of the last units. For 100 units purchased at $1 a unit, 100 purchased at $1.50 a unit, and 100 purchased at $2 a unit, the cost of the final inventory would be taken to be $1 a unit or $100 and the balance would be the cost of the goods sold. This method has been used particularly by companies with long production periods, which must carry large inventories which fluctuate widely in cost.[2] Companies that use for raw materials hides, leather, cotton, rubber, and some metals are subject to risks that are very difficult if not impossible to control. These companies frequently make high profits in periods of rising prices, but at the same time the prices of their raw materials are increasing. The profits may in a large part be absorbed in financing the higher priced inventories of raw materials. Later, when prices drop, substantial losses may be incurred on these inventories. The last-in, first-out method when started at the proper time (and this is an important consideration in its use) will tend to stabilize the profits reported from period to period. Those who oppose this method use very effectively against it the argument that the reported profits are stabilized. They claim that one of the major functions of accounting is to show that the profits of certain companies fluctuate more widely from period to period than do the profits of other enterprises. Another strong argument against this method is that the inventory is shown on the balance sheet in periods of rising prices at costs below the current costs, and in periods of decreasing prices at costs higher than current costs.[3]

[1] See W. A. Paton, *Essentials of Accounting*, The Macmillan Company, New York, 1938, p. 484.

[2] E. W. Graham, "Current Practices in Inventory Valuation," *National Association of Cost Accountants Bulletin* XVIII, No. 13, March 1, 1937, pp. 752–67. See also *The Control and Valuation of Inventories*, National Association of Cost Accountants, New York, 1941, pp. 254–59.

[3] W. A. Paton, "Last-in, First-out," *The Journal of Accountancy*, May, 1940, pp. 354–60; G. R. Husband, "The First-In, Last-Out Method of Inventory Valuation," *The Accounting Review*, June, 1940, pp. 190–96.

Another method that gives similar results is the *base stock* method,[1] under which a certain minimum inventory is recorded at a cost which is usually relatively low. This inventory is considered to be permanent. Its cost is changed, if at all, only at long intervals of time. The same arguments are advanced both for and against this method as were advanced for and against the last-in, first-out method.

It is admitted that those companies with long production periods and large inventories of raw materials and goods in the process of manufacture have a problem. But the best way to meet this problem would seem to be that followed by many companies, which is to estimate the possible loss and debit some account such as Losses from Possible Inventory Price Fluctuations and credit Reserve for Possible Inventory Price Fluctuations. The account Loss from Possible Inventory Price Fluctuations would be closed to Surplus and would be shown on a combined statement of profit and loss and surplus. The reserve account would be deducted from the inventories on the balance sheet. In this way the profits are presented in the same way as those of any other company, and in periods of rising prices a deduction is made from surplus because of inventory losses that will probably be sustained in the future.[2]

Theoretically, costs such as those for receiving and storing goods should also be allocated part to the cost of the goods sold during the period and part to the final inventory. Manufacturing firms, particularly those which have very high receiving and storage costs, make a very careful allocation of these costs.[3] Most stores do not, simply recording them as expenses of the current accounting period. Again the tests should be the amount of such expenses and the effect the failure to allocate part of them to the final inventory would have on profits. If the amounts make no material difference in the profits these costs can properly be considered to be expenses of the period in which they are incurred. If the failure properly to allocate such costs distorts the profits from period to period then they should be allocated. The practice of most stores in considering such costs to be expenses may result in a satisfactory matching of costs with revenue.

The differences of opinion as to the method of allocating costs to the cost of goods sold and the inventory are not as serious as they seem. It is true that the period-to-period profits will be different. But *the profits for a period of years such as a business cycle will ordinarily be much the same under the different methods.* When we use the profits of a business enter-

[1] See W. A. Hosmer, *Problems in Accounting*, McGraw-Hill Book Co., New York, 1938, p. 238, National Lead Company case.

[2] See Wyman P. Fiske, "Inventory Valuation Plans," *N.A.C.A. Bulletin*, Vol. XIX, No. 22, July 15, 1938, pp. 1279–90.

[3] See W. A. Hosmer, *op. cit.*, p. 138, American Tobacco Company case.

prise as an indication of its success, we should take the profits for a period of years and not for one year. *Too much credence should not be placed upon the profit or loss for one year.*

Purchase Discounts. In Chapter VIII the method of recording purchase discounts when the payment is made was discussed. Those who favor this method reason that the discount is the result of the payment of the bill, not a result of the purchase, that it is in the nature of an earning on capital invested in the enterprise or that it is a reduction in the interest cost of the additional capital needed to take the purchase discounts. Under this method the purchase discounts are usually shown on the statement of profit and loss, not as operating revenue, but as financial revenue, although there is no objection to considering it a reduction in the cost of goods sold.

This method may be satisfactory if discounts are not at all important in the enterprise, or if the method is combined with a good system of office routine that assures that the discounts will be taken. It is subject to the following objections of a theoretical and practical nature, mentioned in Chapter VIII:

The liability is recorded at the gross amount.
The amount of the purchase discounts lost is not recorded.
Revenue may be recorded although no goods or services are exchanged.

The liability is recorded at the gross amount whereas the actual liability at that time is for the net amount. The purchaser becomes liable for the amount of the discount only if he fails to pay the bill within the discount period. The liability for the discount is a contingent liability rather than an actual liability.

The purchase discounts lost are not recorded. All the purchase discounts could be lost and the books would present little evidence of this fact. To this argument the answer is often made that a good system of office routine will ensure that the discounts are taken. This may be true, but it is one of the functions of the records to provide evidence of the failure of the office routine or of any other part of the organization. This is not done under this method of recording purchase discounts.

Another argument against this method is that an enterprise could, by making heavy purchases and paying its bills within the discount period, show revenue even though no goods or services have been exchanged, and this is inconsistent with the fundamental of accounting that revenue be recorded only when goods or services are exchanged.

One satisfactory method of meeting these objections is to record the purchases and the liability at the net amount. Under this method a $1,000 purchase from Harper Bros. subject to a discount of 2 per cent would be

recorded by a debit of $980 to Purchases and a credit of $980 to Harper Bros., as follows:

Purchases			Harper Bros.	
980				980

When payment is made within the discount period the payment is for $980, and an entry would be made to debit Harper Bros. $980 as follows:

Harper Bros.			Cash	
980	980			980

If the payment is not made within the discount period, $1,000 must be paid, and an entry is made to debit Harper Bros. $980, to debit Purchase Discounts Lost $20, and credit Cash $1,000, as below:

Harper Bros.			Purchase Discounts Lost			Cash	
980	980		20				1,000

The Purchase Discounts Lost account is added to the purchases on the statement of profit and loss.

This method meets all the objections raised to the first method; the liability is recorded at the net amount; the purchase discounts lost are recorded; and no revenue is recorded unless goods and services are exchanged.

The objection to this method is that it does not show the amount of the purchase discounts taken, but this is not as important as is the taking of the discounts. If the discounts are taken the enterprise benefits from the discounts, and these benefits are important. A discount of 2/10, n/30, means that the enterprise receives a reduction of 2 per cent if it pays within 10 days. If it does not pay until the end of 30 days, the use of the money for 20 days has cost 2 per cent, or a rate of 36 per cent a year. Retail clothing stores often receive discounts of 8 per cent for payment within 10 days after the end of the month (8/10, E.O.M.). Such discounts must not be lost. If they are, the enterprise is not likely to be in business very long.

At the end of the accounting period the contingent liability for purchase discounts not yet taken should be mentioned in a footnote to the balance sheet, and an adjustment should be made if any discounts are lost on invoices still unpaid. (None should be lost.)

Under this method of recording purchase discounts purchase returns must be recorded at the net amount. Goods purchased for $1,000 subject to a 2 per cent discount are entered at $980. If goods invoiced at $200 were

returned to the creditor, an entry would be made to debit the creditor $196 and credit Purchase Returns and Allowances $196.

Several other excellent methods of recording purchase discounts are used, but since these are more complicated than the satisfactory method just explained, discussion of them will be left for more advanced courses.

Selling Expenses. Part of the costs recorded as selling expenses may not apply to the revenues of the particular period in which the costs are incurred. Costs of advertising, sales promotion, and salaries of salesmen and the sales manager may be in part costs of future sales. Nevertheless the conventional practice in accounting is, except in unusual instances, to deduct these costs from the sales of the period in which the costs were incurred. That is, they are considered to be expenses of the current period.

This practice has been followed because the connection between the selling costs and the goods to be sold in future accounting periods is ordinarily so remote and so difficult to measure that it is disregarded. For example, the sales manager's time will ordinarily be devoted to current sales and to plans for future sales. Logically part of his salary toward the latter part of an accounting period should be deferred, but this amount is so nebulous that it is disregarded.

The conventional treatment will ordinarily result in a satisfactory matching of the selling expenses with revenues. The great bulk of the selling expenses for a year will be matched with sales to which they apply, and amounts that will not be so matched are usually small, and in addition there is a certain overlapping of the expenses from period to period. Part of the costs of the current period are costs of the sales of the next period; part of the costs of the next period apply to the following period, etc.

General and Administrative Expenses. Some costs ordinarily recorded as general and administrative expenses may be incurred before the period in which the revenue of which they are costs is recorded; others may be incurred after that period. A portion of the general manager's salary may be a cost of sales of future periods. Other costs, such as collection expenses, will in part be incurred in periods subsequent to those in which the sales to which they apply were made; that is, some of the collection expenses of each year will ordinarily be a cost of the revenues of the preceding year.

As was true of costs recorded as selling expenses, these costs will usually be satisfactorily matched with revenue by recording them as expenses when they were incurred. However, if the profits are likely to be distorted adjusting entries should be made to record the costs in the proper periods. This is sometimes done with collection expenses. At the end of the accounting period an estimate is made of the costs of collecting the uncollected receivables, and an entry is made to debit Collection Expenses and credit Reserve for Collection Expenses as follows:

Collection Expenses	xx	
Reserve for Collection Expenses . .		xx
To record estimated cost of collecting the uncollected receivables at the end of the period		

At the beginning of the next period this entry is reversed and the collection costs debited to the Collection Expense account as they are incurred. The Reserve for Collection Expenses is deducted from the accounts receivable when the balance sheet is made up.[1] In this way costs are better matched with revenue and the accounts receivable are reduced closer to the amounts they will realize.

Bad Debts. It has already been explained that bad debts are best matched with revenue by basing the bad debts estimate upon revenue. At the end of each accounting period the account Bad Debts is debited with an estimated amount and the account Reserve for Doubtful Accounts is credited with that amount.

Ordinarily enterprises which do business on credit write off some accounts as bad each period, and collect some accounts that were written off as bad in preceding periods. The percentage used by the enterprise for the bad debts estimates might be based upon the accounts written off, or upon the accounts written off less those recovered. This latter amount we shall refer to as the net accounts written off.

It would appear that bad debts are better matched with revenue if a percentage based on the net accounts written off is used to determine the bad debts charge.

To illustrate, we shall use percentages obtained from the following tabulation:

Year	*Accounts Written Off*	*Accounts Recovered*	*Net Accounts Written Off*	*Sales*
1935	$ 550	$135	$ 415	$ 55 000
1936	600	150	450	60,000
1937	610	160	450	62,000
1938	590	140	450	58,000
	$2,350	$585	$1,765	$235,000

The following percentages are determined from the preceding figures:

The accounts actually written off average 1 per cent of sales (2,350 ÷ 235,000 × 100).

The accounts recovered average 0.25 per cent of sales (585 ÷ 235,000 × 100).

The net accounts written off average 0.75 per cent of sales (1,765 ÷ 235,000 × 100).

If the percentage based upon the accounts written off less those recovered is 0.75 per cent, as in the preceding illustration, the bad debts for sales of $60,000 would be $450, and an adjusting entry would be made at

[1] Only the collection expenses actually incurred during the period are deductible for income tax purposes.

the end of the accounting period to debit Bad Debts $450 and credit Reserve for Doubtful Accounts $450:

Bad Debts	
450	

Reserve for Doubtful Accounts	
	450

But the accounts that will be written off should amount to 1 per cent of the sales of $60,000, or $600. Thus, $600 should be debited to the Reserve for Doubtful Accounts when these accounts are written off:

Reserve for Doubtful Accounts	
600	450

The amounts debited to the Reserve for Doubtful Accounts would be greater than the credits made to this account. If the bad accounts approximated the estimate, the excess of debits would approximate the amount of the accounts recovered. If when accounts are recovered the credits are made to the Reserve for Doubtful Accounts, this deficiency in credits will be made up. Consequently, under this method the credits for accounts recovered should be made to the Reserve for Doubtful Accounts. That is, *when the bad debts estimate is based upon the net accounts written off (upon the accounts written off less those recovered), the credits for accounts recovered should be made to the Reserve for Doubtful Accounts.*

Now let us see what would happen if the bad debts percentage were based upon the average amount of the accounts written off instead of upon the accounts written off less those recovered. The percentage obtained from the figures previously used would be 1 per cent instead of 0.75 per cent. If 1 per cent were used, the bad debts estimate for sales of $60,000 would be $600 and the adjusting entry would be a debit of $600 to Bad Debts and a credit of $600 to the Reserve for Doubtful Accounts :

Bad Debts	
600	

Reserve for Doubtful Accounts	
	600

The accounts written off should amount to $600, which would equal the credit made to the Reserve for Doubtful Accounts. Consequently, the credits for the amounts recovered should not be made to the Reserve for Doubtful Accounts. If they were, an excess of credits over debits would be made to this account, an excess equal to the amount of the accounts recovered. To avoid this excess of credits, the credits for the amounts recovered should be made, not to the Reserve for Doubtful Accounts, but to a revenue account given some title such as Bad Debts Recovered.

Which method is adopted for recording bad debts recovered depends

upon how the percentage used for bad debts was computed. *If the bad debts estimates are based upon the accounts written off less those recovered, the credits for accounts recovered should be made to the Reserve for Doubtful Accounts. If the bad debts estimates are based upon the total of the accounts written off, the credits for accounts recovered should be made to an account Bad Debts Recovered.*

Some Conventional Practices. Some conventional accounting practices are now summarized:

Sales returns and allowances are almost invariably recorded in the accounting period in which the transaction occurs. No attempt is made to match them more accurately with sales.

Sales discounts are ordinarily recorded by debits to Sales Discounts in the periods in which the discounts are taken, although some enterprises do match sales discounts with the sales to which they apply by recording the sales discounts by an adjusting entry to debit Sales Discounts and credit Reserve for Sales Discounts.

Receiving and storage costs are recorded by most merchandising enterprises as expenses of the period in which the costs are incurred. Manufacturing enterprises ordinarily allocate such costs between the cost of goods sold and the final inventory when this can be done with reasonable accuracy and at reasonable cost.

Inventories are commonly recorded at "cost or market, whichever is the lower." This rule has been subjected to severe criticism in recent years, and many leaders in accounting thought now favor the use of cost except under unusual circumstances.

Selling costs are almost invariably recorded as expenses of the period in which the cost is incurred.

General and administrative costs are almost always recorded as expenses of the period in which the cost is incurred, with the exception of collection expenses which are sometimes matched with the revenue to which they apply by making an adjusting entry to debit Collection Expenses and credit Reserve for Collection Expenses.

Bad debts recovered are credited to the Reserve for Doubtful Accounts or to an account Bad Debts Recovered, depending upon the method followed in making the bad debts computation.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain why all the sales returns recorded during an accounting period do not match the revenues to which they apply. Is the customary method of recording sales returns unsatisfactory?

2. Give a method other than the one you have been using in the early chapters for recording sales discounts. Under what circumstances would you use this method?

3. On January 1, 1944, the inventory of canned milk of the XYZ Company was $1,800. During 1944, the following costs were incurred for canned milk:

Purchases (at invoice price)	$20,000
Freight In	1,000
Receiving	2,400
Storage	1,800
Inspection	2,800
Transportation (from the ABC warehouse to the XYZ store)	1,200

The goods were sold in approximately the order in which they were received. On December 31, 1944, one quarter of the canned milk purchased during 1944 was unsold. What was the cost of the goods sold?

4. Explain the following methods of allocating costs:

The first-in, first-out method
The average cost method
The last-in, first-out method
The "cost or market, whichever is the lower" method

5. Should the proportionate amount of costs always be allocated to the sales of each period as the cost of goods sold?

6. The last-in, first-out method is a very controversial method in accounting. Why do some accountants favor this method? Why do some object to it?

7. A purchase is made for $500 subject to a 2 per cent discount for payment within 10 days. Give the entry to record this purchase at the net amount. Give the entry that would be made if payment were made within 10 days. Give the entry that would be made if payment were made in 25 days.

8. Goods purchased for $100 subject to a 2 per cent discount, and recorded as in question 7, were returned to the creditor. Give the entry to record the purchase return.

9. Why do accountants exercise less care in matching selling and general administrative expenses with revenue than they do in matching the costs of the goods sold with the sales?

10. Give an example of a cost that is incurred in a period subsequent to that in which the revenue of which it is a cost is recorded.

11. Collection expenses are ordinarily recorded in the period in which they are incurred. Explain how these expenses might be better matched with revenues.

12. The percentage of the accounts written off to sales was 0.75 per cent, and the percentage of those written off less those recovered was 0.50 per cent of sales. If 0.75 per cent is used to determine the bad debts, how should the accounts recovered be recorded?

LABORATORY PROBLEMS

1. Entries are to be made to record the following data on December 31, 1944:

(a) On December 31, 1944, it was estimated that sales returns and allowances amounting to 5 per cent of December sales of $3,500,000 would be made in January, 1945 on December sales. Make the adjusting entry as of December 31.

(b) Discounts of 2 per cent were granted if payment was made within 10 days. On December 31, sales of $150,000 were subject to such discounts. The past experience of the enterprise indicated that 75 per cent of the discounts would be taken. Make the adjusting entry to record these discounts.

(c) Accounts receivable of $400,000 resulting from 1944 sales were on the books on December 31, 1944. It was estimated that it would cost 3 per cent to collect these accounts. Make an adjusting entry as of December 31.

2. The Wilton Department Store had an inventory of $450,000 on December 31, 1944. Purchases during 1945 amounted to $5,000,000; transportation in amounted to $475,000; and receiving costs amounted to $60,000. On December 31 merchandise purchased for $500,000 was still on hand. At what amount would you record the final inventory of merchandise, assuming that transportation and receiving costs were proportional to the purchases?

3. The inventory of the Werner Products Company was $116,250 on December 31,

1929. During 1930 purchases were $368,250. The inventory on December 31, 1930, was $112,325 at cost. The inventory on December 31, 1930, could have been replaced for $81,925 and would sell for $87,242. The selling expenses and other expenses of selling the inventory were estimated to be $5,425.

(a) At what different amounts might the cost of goods sold be shown? What effect would the different methods have on the profits?

(b) At what amount would you show the cost of goods sold on the statement of profit and loss? Justify your choice of method.

4. On January 1, 1944, the Olympic Lumber Company had an inventory of 1,000,000 board feet of common lumber which cost $16.50 per thousand board feet. During 1944 it purchased the same kind of lumber in the following amounts and at the following prices:

Board Feet	*Price per Thousand Board Feet*
800,000	$20
600,000	$22
900,000	$25

On December 31, 1944, 600,000 board feet were on hand.

(a) At what amount would the final inventory be recorded under the following methods?

The first-in, first-out method
The average cost method
The last-in, first-out method

(b) What effect would the use of the different costs given in part (a) have on the profits for the year 1944?

(c) What effect would the use of the different costs in part (a) have on the profits of the year 1945?

(d) Since the Bureau of Internal Revenue has permitted the use of the last-in, first-out method for income tax purposes, many companies changed to this method at the end of 1940 and 1941. What effect would you expect such changes to have on the future profits of these companies?

(e) Since different cost methods result in different profits, are profit and loss statements of much value?

5. The accounts written off by the Mineral Supply Company averaged 1 per cent of sales, which averaged $200,000 a year. The accounts recovered averaged 0.25 per cent of sales.

(a) The bad debts for 1942 were to be recorded as 1 per cent of the sales of the $200,000. Make the adjusting entry to record the bad debts. During 1943, $300 of those accounts were collected. Make the entry to record the $300.

(b) The bad debts for 1942 were recorded as 0.75 per cent of the sales of $200,000. Make the adjusting entry to record this amount. During 1943, $300 of those accounts were collected. Make the entry to record the collection of $300.

CHAPTER XIX. MATCHING COSTS WITH REVENUE

Depreciation, Obsolescence, Inadequacy, Depletion, Goodwill

Costs of Buildings and Equipment. Costs are incurred to obtain the services of buildings, machinery, and equipment. A building not only affords protection for the materials and equipment, but enables employees to work in a comfortable environment. In addition machinery and other equipment are used to produce goods and services.

The costs incurred to obtain the services of buildings and equipment are of two types:

Costs incurred to acquire the buildings and equipment and to prepare them for the purpose for which they are intended.

Costs, called *repair and maintenance* costs, incurred to keep them in efficient operating condition.

The first type of costs will be discussed in this chapter, the second type, in the following chapter.

The accountant has the same problem with the costs of buildings and equipment as he has with other costs, namely, that of allocating the cost of the services used in producing particular revenue to that revenue. There are two steps involved in this process:

1. The cost of services used or expired during a particular period of time is recorded as depreciation.
2. The portion of the depreciation that applies to the goods sold should be recorded as expense, and the portion that applies to the goods on hand should be deferred and included as a part of the cost of the inventory on hand.

In this chapter only the first of these two steps will be discussed, that of determining the portion of the cost of the services used or expired during an accounting period. The second step, that of dividing the depreciation between the goods sold and the goods on hand, will be discussed and illustrated in the later chapters on manufacturing accounting.

When a building is purchased or constructed, its costs are recorded in the account or accounts, under some such title as Buildings. These costs are costs of the services that are to be received over the life of that building. All costs of the building would be recorded in this account—the architect's fees, the costs of construction, and any other costs of preparing the building for the purpose for which it is intended—that is, of preparing it to render the services for which it was purchased or erected.

The same is true of costs of machinery and equipment. When a machine is purchased the accountant records in an asset account the purchase price, the transportation charges, the cost of unloading the machine, the installation costs, the cost of test runs, and any other costs incurred to prepare the machine for the purpose for which it is intended.

When land is purchased, all the costs incurred in obtaining the land and in preparing it for use are recorded in an asset account Land. Such costs would include the original purchase price, commissions paid to real estate agents, the cost of grading and draining, street assessments, and similar items. When a piece of land is purchased and there is on it an old building which the purchaser expects to remove in order to prepare the land for the purpose intended, the cost of the building and the removal thereof are part of the cost of the land. Land used as a building site can yield its physical services indefinitely. Although it might become unsuitable for the purpose for which it is intended, it is generally stated in accounting that land used as a building site does not depreciate.

Causes of Depreciation. It has been explained that buildings and equipment may be considered to be made up of service units. As the buildings and equipment are used they give up, or lose, some of the service units they can economically render to the enterprise. This loss is called *depreciation*, and may be caused by:

The use of the buildings and equipment, commonly called wear and tear.

The action of the elements—heat, cold, moisture, wind, etc.

Technological changes, and changes in the market for the output of the company's products.

The rate at which buildings and equipment deteriorate will vary with many factors, two of the most important of which are the conditions under which they are used and the repair policy followed by the enterprise. But regardless of the repair policy followed, buildings and equipment, especially equipment, are deteriorating, and will eventually reach a stage beyond which their use is no longer economical. This stage may be reached in a short time for light equipment operated at high speeds, whereas certain types of heavy equipment may be used for many years. Light delivery equipment will usually be uneconomical to use after from 3 to 5 years, yet an office safe might render services for from 50 to 100 years. As the buildings and equipment are used their productive capacity does not necessarily decrease. In fact, production may be well maintained until near the end of the life of the equipment. Nevertheless physical deterioration is taking place: wear and tear affects the entire machine, shafts are becoming worn, alignments are more difficult to make, etc. Eventually repairs and operating costs will be so great that the equipment cannot be economically operated and must be discarded.

Buildings and equipment will ordinarily deteriorate physically even when idle. If made of steel and well maintained, they may deteriorate little in this way, but most equipment will lose some of its total service-rendering capacity when idle. Moisture and changes in temperature are especially damaging to wooden structures. Unless such structures are carefully repaired they will deteriorate rapidly when idle (and costs of repairs are usually reduced when plant and equipment are idle). At such times the tendency is to economize, with the result that the deterioration may be greater than when the plant and equipment are used.

Buildings and equipment may not be economical to use even if kept in good physical condition. Some invention may make the equipment obsolete for the purpose for which it is being used. *This loss of service-rendering capacity for a particular purpose, because something better has been invented, is called obsolescence.* It will be noted that obsolescence is related to a particular purpose. A machine that is obsolete for one purpose may still be satisfactory for another.

Another cause of the loss of service-rendering capacity is called *inadequacy.* The equipment may be in good physical condition, and superseded by nothing else, yet it may not be economical to use; it may be inadequate for the needs of the enterprise. A power and light company may find a generator too small to meet the needs of its expanding market. This loss of service-rendering capacity is not the result of physical deterioration or of obsolescence. *Inadequacy is the result of the inability of equipment which is in good physical condition and which is not obsolete to produce the quantity of services needed by the enterprise.* Obsolescence and inadequacy are often referred to as *functional depreciation* as distinguished from physical deterioration. The equipment, although in good physical condition, is not suitable to perform the function for which it is being used.

Whether the loss of service-rendering capacity is the result of physical deterioration, obsolescence, or inadequacy, it is customarily recorded as depreciation.

Methods of Computing the Depreciation Cost for a Period. The two simplest and most common methods of estimating the depreciation cost for a period of time will be briefly explained in this section. The reader is already familiar with the most widely used method, the straight-line method. Before we discuss these methods and some of the problems that arise in their application, the methods will be described.

The *straight-line method* was described in Chapter VI. Under this method the salvage value of the building or equipment at the end of its useful life is estimated, and the amount is deducted from its cost. The balance is considered to be the cost of the services that will be received from the building or equipment. This amount is divided by the estimated

life of the building or equipment to determine the periodic depreciation. If a machine purchased for $5,000 has an estimated salvage value of $400 at the end of its estimated life of 10 years, the annual depreciation is estimated to be $460, computed as follows:

$$\frac{5{,}000 - 400}{10} = 460$$

This method will provide reasonably accurate results if the services of the machine were used, or expired, in equal amounts each year and if the estimated life of the equipment is reasonably accurate. Generally it will be satisfactory for business purposes. The majority of enterprises compute depreciation in this way for several reasons:

The method is simple.

More accurate computations are too costly or even impossible to make.

Obsolescence and inadequacy are often more important factors in depreciation than physical deterioration.

The *units-produced, or service units,* method would sometimes be more accurate than the straight-line method. This method is quite similar to the straight-line method, except that the cost to be distributed is divided by the estimated service units that the building or equipment is capable of rendering, instead of by the estimated life of the equipment. If a machine with a salvage value of $400 is purchased for $5,000, the cost to be distributed is $4,600. If the estimated production of the machine over its life is 1,000 tons of a product, the depreciation per ton is considered to be $4.60, computed as follows:

$$\frac{5{,}000 - 400}{1{,}000} = 4.60$$

If during a year 100 tons were produced, the depreciation would be recorded as $460. If 200 tons were produced, the depreciation for the period would be $920.

This method would appear to be a logical one to use for the depreciation of trucks and buses. However, very few companies use it. Even street railways and bus lines ordinarily use the straight-line method. There are two reasons for this policy: First, the companies have found from experience that the variation in mileage each year is not great enough to affect materially the depreciation; second, obsolescence and inadequacy are such important factors in depreciation that equipment may not be used for the entire time it is physically capable of rendering service.

Other complications arise in computing depreciation. In the calculation of the cost of physical deterioration alone, there are two factors to consider:

First, the depreciation resulting from the action of the elements, that is, the physical depreciation that would occur with the mere passing of time, and second, the depreciation resulting from use. The depreciation that occurs with the mere passing of time may be greater than the depreciation resulting from use, or vice versa. The minimum depreciation for a period would ordinarily be that resulting from use, or that from the passing of time, whichever is greater. On very rare occasions the two might combine to result in a higher rate. If the annual depreciation that occurs with the passing of time is estimated to be $500, while that which results from use is estimated to be $300, the depreciation would ordinarily be recorded as $500 a year.

The possibility of obsolescence or inadequacy creates a slightly different situation. The physical depreciation of a machine which cost $1,200, and which would last 6 years at the end of which it would be valueless, would be $200 each year. If the machine would be obsolete in 4 years, the depreciation based on this period of time would be $300 a year. Under such circumstances the depreciation would ordinarily be recorded as $300 each year.

The Plant Ledger. Enterprises with different types of equipment which depreciate at different rates ordinarily maintain a supplementary record of such equipment. A record is maintained of each machine, or group of machines of a similar kind. These records are kept on cards or in loose-leaf books. The card for a particular machine would give the date of purchase, the purchase price, the installation charges, the estimated scrap value, the estimated life, the repairs made, the depreciation to date (often called the *accrued depreciation*), and any other pertinent information. These records provide the data from which the depreciation computations are made and the data for judging the cost of keeping the equipment repaired.

On the opposite page appears an illustration of a plant ledger card.

Difficulties in Computing Depreciation. If one could forecast the amount of the services to be obtained from equipment, measure accurately the services consumed, and predict with accuracy when obsolescence would occur, an accurate computation of depreciation could be made. This, however, can rarely be done; only approximations can be made. But the fact that the difficulties are great is not sufficient reason for not attempting to make reasonably accurate estimates. A study of equipment and its use under different conditions will usually result in improved estimates.

Frequently, reasonably accurate estimates can be made of obsolescence and inadequacy. Engineers and executives usually know of developments that will result in the obsolescence of plant and equipment, such as changes in major productive processes as a result of invention. On the other hand, obsolescence may occur which it is almost impossible to forecast. Changes

Kind of Equipment ________	Price ________
Symbol and Number ________	Freight ________
Location ________	Installation ________
Maker ________	Total ________
	Scrap Value ________
Account Debited	Net ________
	Life ________
________	Annual Depreciation ________
	Monthly Depreciation ________

Depreciation			Repairs			Remarks
Date	Accrued Depreciation	Book Value	Date	Kind	Amount	

PLANT LEDGER CARD

in the demand for a product or in the design of equipment may result in obsolescence almost overnight, or unusual sales of a new product may result in equipment which was in good condition being inadequate to meet the needs of the enterprise.

Even with our present inability to measure depreciation accurately, our methods are reasonably satisfactory, for depreciation is a comparatively small percentage of sales and of costs. The income tax statistics for 1929 reveal that corporations with sales of $69,236,000,000 reported depreciation of $1,753,000,000.[1] This is only about 2.5 per cent of sales and a slightly higher percentage of costs.

On the other hand, depreciation may be a very important factor in the determination of the profits. The depreciation and depletion of one company for the 5-year period from 1936 to 1940 averaged about $6,700,000 a year, while the average annual profit for the same period was about

[1] F. C. Mills, *Prices in Recovery and Recession*, National Bureau of Economic Research, New York, 1936, pp. 129–130.

$10,800,000. Obviously the depreciation recorded by this company is a substantial factor in the determination of its profits.

Errors in Depreciation. Frequently errors will be discovered in depreciation computations. Buildings and equipment may be worn out or become obsolete before the end of their estimated life, or may last many years beyond their estimated life.

When it is seen that the depreciation rate is not sufficiently high, a more accurate rate is computed and used in the future. The errors in the past depreciation cannot be corrected in the profit and loss accounts for prior years, because the books have been closed each year; consequently the correction must be made in some other way. This is done by debiting some account, such as Depreciation Adjustment account, which is shown on the statement of profit and loss as a nonrecurring deduction.

The following example will help to clarify this procedure. A machine purchased for $10,000 is depreciated at the rate of $1,000 a year. At the beginning of the fifth year it is found that the machine must be discarded in 4 years, that is, at the end of the eighth year. The depreciation should have been $1,250 a year ($10,000 ÷ 8), instead of $1,000 a year; and the depreciation for the next 4 years would be recorded at $1,250. The depreciation for the first 4 years was understated by $250 a year, a total of $1,000, and to correct this error the Reserve for Depreciation of Machinery would be credited $1,000 and the Depreciation Adjustment account would be debited that amount.[1]

It frequently happens that a building or machine is written off the books when it has many useful years of life remaining. Ordinarily no entries are made on the books to correct this. Entire plants, written off, are frequently recorded at a nominal amount such as $1. When this is done a footnote should be appended to the balance sheet to provide stockholders and others with an approximation of the cost of replacing this plant and equipment. If the depreciation would have any material effect on the profits, a footnote should be appended to the profit and loss statement to draw attention to the absence of depreciation in the profit computation.

Another difficulty results from the fact that different parts of buildings and equipment depreciate at different rates. The life of a building may be estimated to be 50 years, but during that time certain parts such as the roof, the floors, the heating plant, and the decorations, may be replaced many times. If the building originally cost $100,000, the depreciation would ordinarily be recorded at $2,000 a year. But certain parts of the

[1] The Bureau of Internal Revenue requires a different computation for income tax purposes. It requires that the undepreciated amount be divided by the remaining life, *i. e.*, $6,000 ÷ 4 or $1,500.

building are depreciating at a much greater rate, hence greater accuracy would be obtained if one could depreciate separately the roof, the floors, and other major parts. Because of the cost of making such detailed computations, and because of the difficulty of obtaining the cost and the rate of depreciation of different parts, this method is seldom used, but it will be explained and illustrated in greater detail in the following chapter.

Blanket Rates for Depreciation. Many enterprises use only one rate for the depreciation of the entire plant and equipment. A West Coast public utility applies a rate of 2 per cent to the cost of its entire plant and equipment in order to obtain the annual depreciation cost. Such a rate is called a *blanket rate* or *composite rate*. This method may be reasonably satisfactory when almost all the plant and equipment will be used for many years and the ratio of different parts with different depreciation rates to the total assets does not change materially. It would ordinarily be very inaccurate for an enterprise with equipment that depreciated at many different rates.

An enterprise that keeps detailed records is ordinarily in a good position to present convincing arguments to the Bureau of Internal Revenue as to the fairness of its depreciation charges. When blanket rates are used, this is much more difficult to do.

Depreciation of Physical Equipment Purchased During an Accounting Period. Accountants seldom bother with periods less than one month in making depreciation computations. One common practice is to consider costs incurred in the first half of the month as incurred on the first day of the month, and those incurred in the last half as incurred on the last day of the month. Frequently such costs are disregarded entirely for the partial period.

Another common practice acceptable to the Bureau of Internal Revenue, where additions are spread fairly uniformly over the year, is to depreciate the total additions for half a year.

The main point to be remembered is that a consistent policy should be followed from period to period so that comparisons will not be distorted.

Plant and Equipment Discarded. When buildings or equipment are discarded, the accountant is confronted with several problems: the Reserve for Depreciation account usually does not equal the balance of the asset account; costs must be incurred for the removal of the discarded equipment; and money may be received from the sale of the equipment. Disregarding what we shall call demolition or removal expenditures, which will be discussed in the following chapter, we shall now discuss accounting for the discarded plant or equipment.

If, when equipment is discarded, the amount credited to the Reserve

for Depreciation account exactly equals the amount of the original cost of the equipment, the entry required is one debiting the Reserve for Depreciation account and crediting the asset account.

Since equipment is almost always discarded during an accounting period *it is necessary to bring the Reserve for Depreciation account up to date*, which is done by a debit to a depreciation account and a credit to a reserve for depreciation account. After this has been done, let us assume the balance of the Machinery account is $2,500 and that of the Reserve for Depreciation of Machinery is $2,000. The entry to eliminate the balances of these accounts from the books would be:

Reserve for Depreciation of Machinery . . .	$2,000	
Loss on Machinery Discarded[1]	500	
Machinery		$2,500
To write off cost of machine ABX		

If anything is received from the sale of the discarded machine, the amount would be credited to the Loss on Machinery Discarded account or to the asset account Machinery before the above entry was made. That is, the salvage would reduce the amount to be recorded as a loss.

Depreciation on Donated Assets. Land is the most common productive factor donated to a business. When donated to an enterprise it may be shown at a nominal amount on the balance sheet with an appraised cost mentioned in a footnote, or it may be brought on the books by debiting Land and crediting a Donated Surplus account.

If important fixed equipment, such as a building, is donated to a business, the accountant has the problem of showing the true cash outlay costs and at the same time trying to prevent people from getting a misconception of the costs and hence of future profits.

He can do this by recording the building at a fair appraised cost on the date of acquisition and crediting Donated Surplus. The depreciation on the building would be debited to an account Depreciation on Donated Assets. This account would be closed to the Profit and Loss Summary account but would not be deductible for income tax purposes. It would be shown on the statement of profit and loss as a deduction from the operating profit.

Another method, probably not as good as the preceding one, is that of recording the donated building at a nominal amount, such as $1, and then stating in a footnote to the statement of profit and loss the depreciation on the appraised cost of the property at the date of acquisition.

[1] When a machine such as a truck is traded in on another truck, this transaction is considered by the Bureau of Internal Revenue to be "An exchange of a like kind" and the loss cannot be deducted for income tax purposes, but may be added to the cost of the new truck and included in the depreciation base. However, this loss should not be recorded in the asset account but kept in a supplementary record. It would be unsound accounting to retain in the accounts part of the cost of a machine that has been disposed of.

Depletion. It was explained before that such enterprises as those that mine ores, cut timber, produce oil, or exploit other natural resources record as depletion the cost of these resources.

The portion of the costs of such natural resources used during an accounting period is recorded as the depletion cost for the period, the credit being made to an account Reserve for Depletion, which serves to reduce the asset account. Depletion is a cost of the natural resources that are consumed in the operation of the business during the period; it is a cost of raw materials used. The portion of the depletion that applies to the goods sold during the period is an expense. For example, if a mine purchased for $500,000 was estimated to contained 250,000 tons of ore, the depletion would be considered to be $2 a ton. If 50,000 tons of ore were sold during a particular accounting period, the depletion expense for the period would be recorded as $100,000.

Goodwill. Goodwill is recorded in accounting only when an existing enterprise is purchased. In addition to the payment for the assets of the enterprise, a payment may be made to the seller because of the profits, made, or expected to be made, in excess of a fair return on the net value of the tangible assets of the business. That is, if a payment of $150,000 is made because the enterprise has made profits greater than a fair return on the net value of its tangible assets, goodwill of $150,000 is recorded as an asset.

It is difficult to justify the recording of goodwill as an asset if the enterprise is looked upon as an entity entirely separate from its owners (a convenient and desirable fiction, but one which should not be carried to the extreme). The purpose of the enterprise is to produce goods and services, in the process of which costs are incurred, but goodwill is not a cost of goods and services used in producing other goods and services. Any services or benefits from goodwill accrue to the owners of the enterprise in the form of profits.

Goodwill is not a social cost and in a nonprofit society would not exist. We are, however, dealing with a profit economy and with private parties. To private parties, as distinct from the enterprise, goodwill is of service. Its service to them is its contribution to the profits, and to them the payment for goodwill is as much a cost as is the cost of buildings.

Goodwill is entered on the books only when an enterprise is purchased and the payment made is greater than the reasonable costs of the assets acquired. If goodwill were not recorded as an asset at that time, a simple and legal alternative would be resorted to, that is, such tangible things as buildings, equipment, and inventories would be recorded at amounts higher than a reasonable cost. Since an exchange transaction took place and since amounts were actually expended, this practice could legally be

justified. Rather than inflate costs of inventories, buildings, and equipment it is much better to record goodwill as an asset.

Now the question arises as to the disposition of goodwill after it has been placed on the books. If goodwill would last forever, the amount expended for it, divided by infinity, would give a result so small that it would approach zero. But goodwill is usually rather short lived. If a reasonably accurate estimate can be made of its life, its cost should be distributed over this period. Since such estimates are difficult to make, goodwill is often written off in a relatively short, arbitrarily chosen period, frequently in from 3 to 5 years. When the amount of the goodwill is based upon the profits for a certain number of years its cost is distributed over that period of time. This method is probably as satisfactory as any, although it does not follow that the benefits from goodwill will extend over exactly that period. The government does not permit the periodic write-off of goodwill to reduce profits for income tax purposes. The cost may be deducted in certain cases when it is found that the goodwill is valueless.

The goodwill written off during an accounting period is shown in the section of the profit and loss statement for nonrecurring deductions, or on the statement of surplus when a combined statement of profit and loss and surplus is presented. This is done because goodwill is considered, not a cost of producing goods or services, but a cost of profits.

It was stated before that goodwill is recorded in accounting only when it is purchased. A business may earn excess profits, yet it would not show goodwill unless it had purchased that goodwill.

The excess profits of an enterprise may be the result of a good location or of managerial ability. The economist, through the application of the theory of implicit rents, reasons that the only true source of goodwill is managerial ability.[1] For accounting purposes we do not go this far. We do not record implicit rents, and *we do not record goodwill unless it has been purchased.*

Patents. All the costs of developing machinery and devices patented, and all the costs of acquiring patents, are recorded in a Patents account. Although patents are granted for 17 years their cost is ordinarily written off over a much shorter period of time because of the fact that patents will rarely provide protection for 17 years. Theoretically the cost of patents should be written off over the period benefited by the patent, but this period is almost always difficult to determine and will rarely be 17 years. Because of this difficulty businessmen usually want patents written off over a relatively short period of time. Since the accountant does not have much information on which to base a decision, patent costs are usually

[1] F. B. Garver and A. H. Hansen, *Principles of Economics*, Ginn and Company, Boston, 1928, pp. 185–86.

written off rapidly. Since most patents are on manufacturing equipment the costs will usually be manufacturing costs, although there are instances where the cost may be of another type, such as selling.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. List the costs that would be incurred to acquire the services of a 10-ton hydraulic press purchased from the Numatic Co. of New York.

2. How would you record the following costs? Land was purchased for $10,000. An old building was removed from this land at a cost of $6,200. A building was constructed on this land at a contracted price of $50,000.

3. In addition to the cost of acquiring the services of buildings and equipment, what other costs must be incurred to obtain these services over a period of years?

4. The depreciation of a machine was $1,000 for a particular year. Under what circumstances would this entire amount be expense? If $800 of this amount were expense, what would be done with the remaining $200?

5. Merchandising enterprises ordinarily consider the entire amount of the depreciation for an accounting period an expense. Why might this method be quite satisfactory in that type of business?

6. Define or explain the following: depreciation, obsolescence, inadequacy, functional depreciation.

7. The land on which a building was constructed was purchased for $5,000. Would you record depreciation of this land? Would depreciation of land ever be recorded?

8. Is there any relationship between repairs and the rate of physical depreciation?

9. A bus was purchased for $6,000 by the Motor Transportation Company. From its past experience the company believes that this bus will be used for 300,000 miles at an average of 60,000 miles a year; hence this bus will last 5 years. At the end of 5 years the bus will have a trade-in value of $600.

(a) What is the annual depreciation computed on the straight-line basis?

(b) What would be the rate of depreciation per mile if a mileage basis were used?

10. If the units-produced method of depreciation is a logical one, why is it not more frequently used?

11. A machine purchased for $3,000 was expected to last 30 years, but at the end of 4 years it was expected to be no longer adequate for the needs of the company. At that time it would have a sales value of $800. What amount would you record as the annual depreciation?

12. The depreciation of the Dominion Cement Company was reported as $1,000,000 in 1929. In 1932 the amount was reported as $100,000. How do you account for this difference?

13. Does the depreciation of most buildings vary much with changes in volume of production?

14. Might any portion of depreciation ever be a variable expense?

15. A machine purchased for $5,400 was depreciated at the rate of $600 a year for 4 years. At the beginning of the fifth year it was decided that the machine would be scrapped at the end of the sixth year, at which time its scrap value would be negligible. What entries would you make at the beginning of the fifth year? What would be the depreciation for the fifth and sixth years?

16. What is a blanket rate for depreciation?

17. Might a blanket rate be used for all the machines in a plant and another rate for the depreciation of a building?

18. What is the purpose of a plant ledger? What data would be included on a plant ledger card?

19. A machine which costs $9,500, for which the reserve for depreciation amounted to $5,700, was discarded on January 1, 1944.

(a) Make the entry to record the discarding of this asset if nothing was received for it.

(b) Make the entry to record the discarding of this asset if $500 was received for it.

20. Using exactly the same facts as in question 19, part (a), what entries would you make if the depreciation had been based upon a 10-year life and if the machine was discarded on March 1, 1944?

21. How would you record the donation of land by the City of Portmore to the Bestwear Tire Company?

22. The City of Farmingham obtained the ownership of a factory building in settlement of many years' back taxes. This factory was donated to the Norton Manufacturing Company, a national enterprise, to induce it to locate in Farmingham. The sales value of the factory was indeterminate. There had been no bids for it. It was estimated that it would take $150,000 to replace the building. How would you record the receipt of this plant on the books of the Norton Company? If no depreciation of this plant is deducted from the revenue, would you make any criticism of the statement of profit and loss?

23. On January 6, 1940, 300,000,000 board feet of standing timber were purchased for $600,000. What entry would you make at the end of 1940 to record the depletion of 50,000,000 board feet which were cut in 1940?

24. When is goodwill recorded?

25. Is goodwill an asset? Explain.

LABORATORY PROBLEMS

1. (a) Make journal entries to record the following:

Land was purchased for $10,000 cash.
The cost of grading the land was $500, paid in cash.
The cost of excavating for the foundation of the building was $450, paid in cash.
A building which would last 40 years was constructed at a cost of $50,000, one-half of which was paid in cash, and a 5 per cent, 20-year mortgage was given for the balance.

(b) What would the annual depreciation be on a straight-line basis?

2. On June 5, 1942, land was purchased for $6,000. Cash of $300 was expended for clearing and grading the land. Taxes of $150 were paid for 1942. Assessments of $800 for paving and sewers were paid. A building was constructed at a contract price of $40,000, all of which was paid in cash. On January 1, 1943, the building was completed and used for the storage of merchandise. Taxes of $450 were paid for 1943. A street adjoining the building was paved in the latter part of 1943, for which the property was assessed $1,200, which was paid. Make the entries to record these transactions.

3. A sawmill was constructed at a cost of $100,000. It was to be used for cutting 200,000,000 board feet of timber. The mill was expected to operate at a capacity of 20,000,000 board feet a year.

(a) What would be the annual depreciation computed on a straight-line basis?

(b) Make up a tabulation to show the depreciation each year on the basis of footage cut, and the depletion each year. The timber was purchased for $600,000. The footage cut each year was as follows:

Year	*Footage Cut*
1	20,000,000
2	25,000,000
3	15,000,000
4	18,000,000
5	19,000,000
6	23,000,000
7	20,000,000
8	24,000,000
9	17,000,000
10	19,000,000
	200,000,000

4. Make entries to record the following:

(a) A machine was discarded on January 1, 1942; nothing was received for it. The machine had been recorded at its cost of $1,500, and depreciation of $1,100 had been recorded to December 31, 1941.

(b) Land of an appraised value of $3,000 was donated to the business. An old building stood on this land. The building was torn down at a cost of $900, which was paid. A new building was constructed at a cost of $25,000, which was paid in cash. Before the building was completed, part of the foundation collapsed and was replaced at a cost of $3,000.

5. On January 1, 1940, a large chucking machine was purchased for $25,000 cash. It was estimated that the machine would be used for about 7 years, after which the manufacturing process probably would be changed. The machine would have a resale value of about $3,000. Transportation and installation costs amounting to $1,000 were paid in cash. After the machine was used and depreciated for 3 years, the manufacturing process was changed. The machine was sold for $4,500 cash on January 1, 1943. Give the entries to record the purchase, installation, depreciation, and sale of the machine.

6. The Wan Tan Limerock Company purchased buildings and installed equipment to mine limerock from a quarry which contained an estimated 200,000 tons. The buildings, machinery, and equipment cost $30,000. The tonnage would be removed in 5 years, but the buildings and equipment would last for from 10 to 20 years; however, they would be left on the property. The following tonnage of limerock was removed during each of the first 3 years: 50,000 tons, 30,000 tons, and 35,000 tons. At the end of the third year it became obvious that the total tonnage that could be mined had been overestimated; the total tonnage would be about 170,000 tons. During the fourth and fifth years 32,000 and 28,000 tons, respectively, were mined. Give the entries you would make each year for the depreciation of the buildings and equipment.

7. Land was purchased for $8,000 cash. Unpaid taxes and assessments of $1,200 were paid. An old building was removed at a net cost of $600. A building was constructed at a cost of $50,000. The building was financed by the Eastern Trust Company, to which a mortgage of $30,000 was issued and cash of $22,500 was paid. The cash was for the balance of the cost of the building and for finance charges. Make the entries to record these transactions.

CHAPTER XX. MATCHING COSTS WITH REVENUE
Repairs, Replacements, Additions

Repairs. It was explained in Chapter XIX that the costs incurred for the acquisition of buildings and equipment and for their preparation for the purpose for which they are intended are recorded in asset accounts.

Additional costs must be incurred during the life of buildings and equipment to keep them in good operating condition. For example, costs must be incurred for grinding and sharpening tools, for grinding the valves of engines, for cleaning tools, and for replacing parts that are worn. Parts like the roof of a building, the gears, pistons, and shafts of machines must be replaced. *Such costs incurred for the purpose of keeping buildings and equipment in operating condition are recorded as repairs.*

In accounting, repairs are distinguished from replacements. Most repairs that are made require the replacement of parts, the costs of which are recorded as repairs, and the term *replacement of parts* is used in this chapter to refer to replacements made when repairs are made. In accounting *the term "replacement" refers to the replacement of a unit such as a building or a machine which is being separately depreciated.* Such replacements are not recorded as repairs but are recorded by removing from the accounts the cost of the asset replaced (this is done by debiting a reserve for depreciation account and crediting an asset account, as explained in Chapter XIX in the section on Errors in Depreciation), and then recording the new costs in an asset account.

The distinction between repairs and replacements becomes less and less as smaller units are depreciated. If parts of a building such as a roof or floor were depreciated separately, the cost of replacing such a part would be recorded as a replacement instead of as a repair as is done when the building is depreciated as one unit. Thus, there is a close relationship between the recording of repairs and the recording of depreciation.

As explained in Chapter XIX, repairs are related to depreciation in another way; adequate repairs may prolong the life of buildings and equipment, thereby increasing the total services obtained and reducing the periodic depreciation. An automobile kept in good repair may be operated for 150,000 miles, whereas a similar machine that is neglected may be a "wreck" after 20,000 miles. Where physical deterioration is the controlling factor in depreciation, the repair policy may determine whether the de-

preciation will be relatively high or low. Because of this relationship between repairs and depreciation some enterprises, notably public utilities, combine the two computations by using a composite rate to cover them both. How this is done will be explained later. Such a policy may be satisfactory under some circumstances, but since both these computations are estimates it is ordinarily better to make each separately.

Repairs must be made because of wear and tear and the action of the elements, and the costs incurred for them are costs of services. The periods that receive the services should be charged with the cost of the repairs, and these costs should be deducted from the sales for which they were incurred, but this is not easy to do. The services of the parts of buildings and machines are being received continuously, but ordinarily the repairs are made during later accounting periods than those in which much of the service is received.

For example, suppose that the floor of a building or the drive shaft of a large steamship may be deteriorating over a period of years, but the replacement is ordinarily made within one accounting period. To account properly for the replacement of such parts the costs should be recorded in the accounting periods that have received the services. The costs are costs of the periods that received the service, and should be so recorded; but this cannot be done accurately for several reasons. First, the cost of the particular part such as the floor of a building may not be known; and *it is the cost of the part replaced that should be recorded as repairs*, not the cost of the new part. The cost of the new part is a cost to be allocated to the future accounting periods in which the services from that part will be received. Second, it is difficult, although not impossible, to predict with satisfactory accuracy when repairs must be made. One or both of these difficulties will result in some sort of a compromise method being used to record repairs and the consequent replacement of parts.

First we shall discuss the conventional method of recording repairs.

The Conventional Method of Recording Repairs. Under this method of recording repairs, the costs are recorded in the period in which incurred unless they:

Prolong the life of the buildings or equipment over the life originally estimated.
Increase the production over the life originally estimated.
Reduce the cost of the product.
Reduce the repairs to be made in the future.

In short, we may say that the costs are recorded as costs of the current period unless the effectiveness of the building or equipment as a productive instrument is increased. It is often said in accounting that the costs are recorded as repairs unless the value of the building or equipment for which

the costs are incurred is increased; then it is stated that the value may be increased by prolonging the life, increasing the productivity, etc.

The costs up to the amount of the cost of making the repair are recorded as an expense; but any additional costs are recorded in an asset account. For example, a roof of a building is replaced by a better roof at a cost of $800; the estimated cost of replacing the original roof is $500. The cost, $800, is recorded by an entry as follows:

Repairs	500	
Buildings	300	
Cash (or a liability)		800

This method may be satisfactory for recording costs for repairs that are in their entirety caused by the operations of the particular accounting period, and for the following:

The cost of replacing minor parts of a building like boards in a floor, the shingles in a roof, etc.

The cost of replacing minor parts of machines like the brakes of an automobile, bearings, and other parts.

The cost of grinding, sharpening, and cleaning tools.

On the other hand, it may not be a satisfactory method because:

The cost should be allocated to the future accounting periods; it is the cost of the parts that are worn out that should be recorded as a cost of the current period, not the cost of the new parts.

The costs are recorded entirely in the period in which the repair is made, when actually most repairs are costs of more than one accounting period.

When a repair is made, it is the cost of the part replaced that should be recorded as a cost, not the current cost of replacing that part. When the roof of a building was replaced at a cost of $800, the estimated cost of replacing the original roof was recorded as a cost by debiting Repairs $500. This $500 is the current cost of replacing a roof, the original cost of which might have been $400. If so, the $400 is the cost of the services that have been received and should be charged to repairs, and $400 is a cost of the services to be received in future accounting periods from a roof of a type similar to the one replaced, and should be charged to the asset account.

The greatest weakness of this method is that the repairs are recorded as a cost of the period in which the repair is made. Repairs are a necessary cost of the services received from buildings and equipment, so the periods that receive the services should bear the costs. The cost of replacing an armature of a large generator used by a public utility is a cost of the periods receiving its services, yet this cost is ordinarily recorded as a cost of the period in which the repair is made. This latter accounting period bears the

entire cost of the repair; the earlier periods which received services from the armature did not bear any of this cost. The result is that profits may fluctuate substantially with the repairs that are made. In periods in which repairs are heavy the amounts deducted from profits will be comparatively great, while in other periods the amounts may be small. Furthermore, this method presents opportunities for the manipulation of the profits of enterprises. By varying the replacements made from period to period, especially of parts of buildings, an industrial enterprise may show substantial variations in the profits.

As a consequence this method usually results in a very careless distribution of such costs. Most enterprises charge all such costs below certain amounts, such as $100, to repair accounts. Comparatively small companies are known which consider as expenses all expenditures on existing buildings and equipment unless the amount is in the thousands of dollars.

To illustrate this method in more detail it will be used for the depreciation of the major parts of a steam shovel which was purchased for $11,200. The following are its major parts: the bucket, the cost of which is estimated to be $1,000; the gear mechanism, the cost of which is estimated to be $1,800; the frame, which is considered to cost the remainder of $8,400. The bucket must be replaced at a cost of $1,200 at the beginning of the third and fifth years, and the gear mechanism must be replaced at a cost of $2,400 at the beginning of the fourth year. The machine will be discarded at the end of the sixth year.

If the parts are replaced with parts of the same quality as the original parts, the costs of these parts would be debited to Repairs, and the depreciation and repairs of the several years would be as follows:

	Years					
	1	2	3	4	5	6
Depreciation	$1,866.67	$1,866.67	$1,866.67	$1,866.67	$1,866.67	$1,866.67
Replacement of bucket			1,200.00		1,200.00	
Replacement of gears				2,400.00		
Total	$1,866.67	$1,866.67	$3,066.67	$4,266.67	$3,066.67	$1,866.67

The combined debits for depreciation and repairs vary from $1,866.67 to $4,266.67, yet if the steam shovel were used about the same amount each year, the combined debits should be about the same each year.

The best argument for this method is that it is simple and easy to apply and that the repairs of large industrial companies may average out to about the proper amount each year. Better methods are much more difficult to use, as they require more research and knowledge of repairs.

Reserve for Repairs. By the use of a Reserve for Repairs account, repairs may be recorded in such a way that each period will bear a reason-

able portion of the cost. By this method, at the end of each period the Repairs account is debited an estimated amount and the account Reserve for Repairs is credited that amount, and when the repairs are made their cost is debited to the Reserve for Repairs account. For example, if it is estimated that the repairs should be $1,200 each year, an adjusting entry would be made at the end of each year as follows:

Dec. 31	Repairs	1,200	
	Reserve for Repairs		1,200
	To record estimated repairs for 1942		

If repairs of $800 were actually made during January 1943, the following entry would be made:

Jan. xx	Reserve for Repairs	800	
	Cash		800
	To record repairs to No. 3 Plant		

The Reserve for Repairs account like reserve for depreciation accounts may be deducted from the buildings and equipment when the balance sheet is made up.[1]

This method results in each period being charged a reasonable and proportionate amount for the repairs that must be made. There will be less variation in the charges made in different periods for repairs than would occur if the costs were recorded only when the repairs were made. In addition, the manipulation of profits through the manipulation of repair charges becomes more difficult.

This method is not perfect, for two reasons. First, the cost of repairs must be estimated.[2] Second, it is usually necessary to base the estimates on the cost of making the repairs in the future, instead of on the cost of the parts replaced. However, with a little effort and experience, satisfactory estimates can usually be made of the repairs required in future accounting periods. Many companies estimate and plan their repairs with a satisfactory degree of accuracy. Another benefit from this method is the fact that executives usually learn a great deal more about repairs than they ever knew before.

The Reserve for Depreciation and Repairs.[2] The estimate of the periodic costs of repairs and depreciation may be made in advance and combined in one amount. To illustrate, let us assume that a machine which cost $4,000 will last 10 years, after which it will have no salvage value, and that the repairs required over the life of this machine will amount to $1,200. The cost of the machine plus the repairs, $5,200, is written off over the life of the machine, the annual charge $520, being obtained by

[1] Some accountants believe that this reserve should be considered to be part of the proprietorship.

[2] The Bureau of Internal Revenue does not permit the deduction of estimated repairs in determining profits for income tax purposes.

dividing $5,200 by 10. Each year a debit would be made to an account Depreciation and Repairs and the credit would be made to an account Reserve for Depreciation and Repairs. When the repairs are actually made the costs would be debited to the account Reserve for Depreciation and Repairs.

Let us refer again to the steam shovel illustration. The amount to be allocated to each period for depreciation and repairs would be obtained by adding the estimated cost of the replacement of parts of the original cost of the steam shovel as follows:

Original cost of the steam shovel	$11,200
Cost of replacing the bucket	1,200
Cost of replacing the gears	2,400
Cost of replacing the bucket (second time)	1,200
	$16,000

This amount of $16,000 is divided by 6 to obtain the periodic charge for depreciation and repairs, which is $2,666.67. Over the life of the steam shovel credits of $2,666.67 are made each year to the Reserve for Depreciation and Repairs account, and whenever a part is replaced, the cost is debited to the reserve account.

As was true of the reserve for repairs method, the cost of the repairs to be made over the life of the buildings or equipment must be estimated; and as stated before, since both depreciation and repairs must be estimated, it is best to keep separate records for each.

The Depreciation of Major Parts. A sound method of accounting for the replacement of major parts is to depreciate separately the major parts of buildings and equipment. For example, the following parts of a building might well be depreciated separately:

Foundation and basement	Plumbing
Framework and superstructure	Outside painting
Roof	Plastering
Floors	Inside finishing and decorating
Electrical system	Elevators
Heating system	

The costs of these parts would be kept on plant ledger cards. At the end of each period the depreciation of each part would be computed, and the entry made in the general ledger for the depreciation of the building would be the total of the depreciation of the parts.

When a particular part, such as a floor, is replaced, the cost of the floor would be removed from the Buildings account by a credit to that account, the debit being made to the Reserve for Depreciation of Buildings. If the cost of the floor replaced was $500, and credits of $400 for deprecia-

tion up to that date had been made to the Reserve for Depreciation account, the following entry would be made to write off the cost of the floor:

Reserve for Depreciation of Buildings and Equipment .	400	
Loss on Floor Replaced	100	
Buildings and Equipment		500
To write off cost of floor.		

The cost of the new floor would be debited to the Buildings and Equipment account, and a plant ledger card would be made out for the new floor and placed in the plant ledger card file.

The following tabulation shows the depreciation of the parts of the steam shovel under this method:

Name of Part	Depreciation by Years					
	1	2	3	4	5	6
The Bucket	$ 500	$ 500	$ 600	$ 600	$ 600	$ 600
The Gear Mechanism	600	600	600	800	800	800
Other Parts	1,400	1,400	1,400	1,400	1,400	1,400
	$2,500	$2,500	$2,600	$2,800	$2,800	$2,800

This method results in a satisfactory allocation of the depreciation and repair costs to the periods in which the services were rendered, and it eliminates the wide fluctuations in the repair costs recorded in the different periods.

By depreciating the major parts of buildings and expensive equipment and using a reserve for repairs for recording other repairs, we can account for repairs more accurately than is now being done by many enterprises.

The chief weakness of this method is the amount of clerical work and additional information necessary to record the depreciation of the different parts.

Removal or Demolition Costs. Costs for the removal or demolition of buildings and equipment are ordinarily recorded as costs of the period in which they are incurred and are shown on the statement of profit and loss as nonrecurring deductions, or charged direct to Surplus.

It may be reasonably argued that the periods which receive the services should be charged with the cost of removing the buildings or equipment. This would be done by adding the removal costs to the costs of acquiring and preparing the equipment for the purposes for which it is intended, and basing the periodic depreciation on this combined amount. For example, costs of $2,500 were incurred for a machine which will have a scrap value of $50; the cost of removing the machine is $100. The amount to be depreciated would be $2,500 plus $100 minus $50 or $2,550. This procedure is rarely followed for several reasons: the uncertainty of the removal costs.

the relatively small amount of the removal costs, and the fact that the costs have not yet been incurred.[1]

A method which is sometimes suggested but which should not be used is to consider the removal costs as costs of the building or equipment which replaces that removed. This method is a sound one to use when land is purchased with an old building thereon which it is the intention to remove to make way for a new building; the cost of removing the old building is considered as part of the cost of the land, on the theory that the land was considered to be worth this additional cost or it would not have been purchased. But this is not true when we replace a building or piece of equipment which was used for operating purposes and then removed. The cost of such removal should apply to the periods receiving the service from the buildings and equipment replaced. To do otherwise would be unsound, as the new asset would be recorded, not at its cost but at an inflated amount.

Additions to Plant. Such additions to the plant as the construction of a building, the addition of a new wing to a building, the purchase of a new machine, and the addition of new attachments to a machine should give the accountant little trouble. The costs should be recorded in an asset account such as Buildings and Equipment and allocated by depreciation charges to the revenues.

However, additions sometimes require the removal and discarding of other equipment; consequently it may be necessary to account for removals and replacements.

Overhauls, Alterations. Costs are often incurred for the general overhauling of machines and for alterations to buildings.

When machinery and equipment is *overhauled*, a part of the cost is usually incurred for ordinary repairs, and a part is for additional services or for more efficient service to be received in future accounting periods. A portion of the cost should be recorded as a repair, and a portion should be recorded as an asset to be allocated to future accounting periods. These amounts will have to be estimated, yet this estimate is not as a rule difficult to make, for the amount of the ordinary repairs that will be required can usually be estimated with reasonable accuracy.

Alterations generally involve removal or demolition costs, costs of replacements, and costs of additions. Thus accounting for alterations is a combination of accounting for removals, replacements, and additions. When a building is remodeled, it may be necessary to consider the following costs: the cost of removing parts of the building, the cost of the parts removed, the cost of the replacements, and the cost of additions that are made.

[1] The Bureau of Internal Revenue would not permit the deduction for income tax purposes of depreciation on removal costs.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain how costs incurred for the acquisition and preparation of buildings and equipment for the purpose for which they are intended are allocated to the different accounting periods.

2. What are repairs?

3. Distinguish between replacements, repairs, and the replacement of parts.

4. Is there any relationship between repairs and depreciation?

5. To what periods should the costs of repairs be debited?

6. What difficulties arise in properly recording repairs?

7. The main drive shaft of a ship was estimated to have cost $3,000. This drive shaft was replaced at a cost of $4,000. What is the cost of the services that were received?

8. The estimated cost of a floor is $800. The floor is replaced with one of exactly the same quality which cost $1,200.

(a) What is the conventional method of recording the expenditure of $1,200?

(b) If the floor were replaced with a better one which cost $1,200, what is the conventional method of recording the cost of $1,200?

(c) Support the argument that $400 should be debited to an asset account even if the floor is replaced with one of the same quality and kind.

9. What are the weaknesses of the conventional method of recording repairs?

10. Is the conventional method ever satisfactory?

11. How might the replacements of parts made by a large industrial company enable it to understate its profits during a period of high profits?

12. Explain the method of recording repairs by the reserve for repairs method.

13. When making up a balance sheet, how would you show the reserve for repairs?

14. If you were to use a combined rate for depreciation and repairs, explain how you would arrive at this rate.

15. How would you record the costs of overhauling a machine?

16. How would you record the costs of removing an old machine which was being replaced?

17. An industrial enterprise constructed a new building. When the steel framework was almost completed at a cost of $100,000 part of the framework collapsed. The cost of salvaging the steel and putting up the framework a second time was $75,000. The building was completed at an additional cost of $200,000. How would you record these costs totaling $375,000?

18. Damaged boards in a floor were replaced at a cost of $75. How would you record this cost?

19. A soap factory was purchased by the Polson Brewery at a cost of $25,000. Costs of $30,000 were incurred to convert this plant to a brewery. The brewery was a failure. The company decided again to manufacture soap. A cost of $15,000 was necessary to make this conversion. How would you record these costs?

20. Land was purchased for $5,000; an excavation was made for the basement at a cost of $400; architects' fees of $3,000 were paid; the cost of materials was $30,000, and the cost of labor was $20,000. What would be the annual depreciation if the building would have a useful life of 20 years?

21. Some public utilities make no annual debits for depreciation. They practice what they call retirement accounting. When a replacement is made, either the cost of the equipment replaced, or the cost of the new equipment, is recorded as a cost of the period in which the replacement is made. Retirement accounting was very popular

with the railroads, but in recent years the Interstate Commerce Commission has been insisting that the straight-line method be used. Criticize the retirement method.

LABORATORY PROBLEMS

1. From its past experience and estimates of future repairs the Triton Products Company estimated that each year the wear and tear on its equipment resulted in the expiration of services which cost $6,500. At the end of each year a credit for this amount was to be made to the account Reserve for Repairs. During the first year repairs were made at a cost of $3,700. These repairs were paid in cash.

(a) Make the entry made each year for the estimated cost of the services expired and the entry to record the repairs of $3,700 (paid for in cash).

(b) Was the amount of the annual cost of the repairs overestimated?

2. A building was constructed for a total cost of $17,200. The cost of various parts of the building and the estimated life of these parts were:

Part	*Cost*	*Life, Years*
Foundation.	$ 2,500	20
Superstructure, walls, plastering	4,500	20
Floors	2,200	5
Interior decorating	1,600	5
Roof	1,000	10
Plumbing and walls	1,400	20
Electrical system	1,200	20
Heating	1,600	5
Outside decorating	1,200	5
	$17,200	

The life of the building is estimated to be 20 years and scrap value is disregarded.

(a) What is the depreciation of the building when based on the cost of $17,200 and a life of 20 years?

(b) Draw up a tabulation showing the depreciation for the first year when each part is depreciated separately.

3. A heavy truck purchased at a cost of $2,400 will last 4 years when used on a particular type of construction. Every 2 years the engine must be replaced at a cost of $600.

(a) Recommend an equitable method of recording and writing off the costs of the truck over the 4-year period. The truck will have a trade-in value of $400 at the end of 4 years.

(b) Compare your method with the conventional practice.

4. The Willumatic Corporation owned a building which cost $20,000 and had an estimated life of 40 years. The roof of the building would be replaced about every 10 years. Depreciation of $500 was written off each year. During the tenth year the roof was replaced at a cost of $1,000. What entry would you make to record the cost of the roof? What other method might be followed?

5. Explain how you would record the following:

The cost of lining the brakes of a delivery truck.
The cost of repairing breaks in a cement floor.
The cost of an addition to a building.
The cost of a conveyor belt installed in a factory.
The cost of a smokestack installed by a smelter to protect the surrounding territory from damages from the fumes.

The cost of improving the appearance of the front of a retail store at a cost of $1,500.

The cost of repairs to the heating system of an apartment house which cost $200,000 to build; the cost of the repairs was $400.

The cost of replacing a coal furnace of an apartment house with an oil burner, tank, etc.

The cost of overhauling trucks of the Coney Laundry. The Coney Laundry ordinarily traded in its trucks at the end of 4 years. During 1942 and 1943 trucks that would have been traded in were overhauled.

The cost of overhauling an engine each year.

CHAPTER XXI. CASH CONTROL

Nature of Cash. The *cash* listed among the current assets on the balance sheet is made up of cash on hand, bank deposits, and any other cash that is available for the operations of the business. Deposits in closed banks or funds established for the purchase of specific assets or for the payment of specific liabilities are not considered to be current assets. Examples of such funds are those for the payment of employees' pensions and for the redemption of bonds.

Checks, although really bills of exchange and not cash, are recorded as cash. Checks are of three kinds; the ordinary check, the certified check, and the cashier's check. The different types of checks will now be discussed.

STUB		CHECK	
		Seattle, Washington, Jan. 8, 1938	No. 16
No. 16		THE NATIONAL BANK OF SEATTLE (19-48)	
Date Jan. 8		Pay to the	
To A. James		Order of A. James	$75.00
For Jan. Rent		Seventy five and xx/100	Dollars
Amount	75.00		
			T. W. Wilson

ORDINARY CHECK AND STUB

Almost everyone is familiar with the ordinary bank check. Business firms obtain checks in pads, the checks being numbered consecutively. The stub is used to provide a memorandum record of such data entered on the check as the date, the name of the person to whom the check was made out, and the amount. Some enterprises, particularly small ones, carry forward the cash balance to each stub, add new deposits, and deduct the amount of the check, thereby showing the new balance.

Sometimes the ordinary check is found to be "bad," or *n.s.f.* (not sufficient funds). This means that the person who made out the check did not have sufficient funds on deposit to enable the bank to cash the check. The person receiving a check may protect himself from the possibility that a check may be returned n.s.f. by insisting that he be given a

certified check. The *certified check* is an ordinary check which the bank obligates itself to pay by stamping or writing its certification on the face of the check.

A check that serves the same purpose as a certified check is a *cashier's check*, which is the bank's own check made out in favor of another person or company. The bank receives cash in return for the check, or debits the account of the depositor to whom the check is given.

A check is a negotiable instrument. Consequently title to it may be transferred by indorsement and delivery. Indorsements may be in blank, in full, qualified, or restrictive.

Safeguarding the Cash. Since cash is the asset most frequently embezzled, rules and procedures are needed to safeguard it. These rules and procedures will vary with the nature of the enterprise, its size, and other considerations. Obviously, the safeguards needed by a large department store would be quite different from those required by a small grocery store. Nevertheless, there are certain basic rules, policies, and procedures for the proper control and safeguarding of cash:

1. A system of "internal check" is needed.
2. All cash should be deposited on the day on which it is received or as soon thereafter as is practicable.
3. Control over the distribution of cash should be provided by the use of petty cash and change funds, and by the payment of all but small amounts by check. Additional control over cash disbursements is obtained by the use of vouchers, which are discussed in the following chapter.
4. The balance of the Cash account should be reconciled each month with the bank balance.
5. A system of records should be established to determine the amounts that must be paid the employees. Except in very small enterprises an essential part of such records will be the payroll records.

Internal Check. A system of internal check is said to exist when the work of one person serves to verify that of another. The more work that is arranged in this way, the better the system of internal check is likely to be. Obviously such systems are much more easily worked out in large enterprises than in small ones. An example of internal check is found where one person receives and deposits all cash whereas another person makes the entries in the books for the cash received. Another example of internal check is where the purchasing department and the receiving department are both required to approve all invoices for payment. Additional examples will be found in the following pages.

Cash Receipts. It was stated before that all cash received should be deposited in the bank. This should be done each day if convenient, the customary procedure being to make deposits each afternoon.

To provide an adequate internal check over the cash receipts at least

two persons, and preferably three, should take part in receiving, recording, and depositing cash. One person (two persons would be better) should open the mail and make a memorandum record of the cash received. This memorandum should be turned over to a bookkeeper who would make the entries in the books, and a third person should then deposit the cash in the bank. Neither the person who opens the mail nor the person who deposits the cash should have access to the books of account.

Most stores use cash registers or a central cashier's department as an aid in safeguarding the cash. When cash registers are used, all clerks may have access to a cash register, or there may be one cashier in a department. When all clerks have access to the cash register, each clerk should, if possible, be restricted to the use of a separate drawer. The cash should be collected each evening and checked with the total on the cash register tape. The amounts on the tapes are entered in a memorandum book or on a sheet which goes to the bookkeeper and from which the amounts are entered in the cash receipts book or posted to the ledger accounts. In this way the use of the cash register facilitates the auditing of the cash.

When a system of internal check has been carefully worked out, an unusual amount of collaboration is necessary before cash can be embezzled.

In depositing cash a deposit slip is made out in duplicate. The cash is then turned over to the bank teller, who signs the duplicate deposit slip which is retained by the enterprise making the deposit.

On page 362 is an example of a deposit slip.

A column captioned Deposits, or Bank Dr., is included in the cash receipts journal, and the amount of the deposit is entered in the Deposit column on the same line as the last amount entered. The amount of the deposit should be the total of all amounts entered since the last deposit was made. The Deposit column may be used as a memorandum column, that is a column from which no postings are made, or the total of the column may be debited to the Cash account or to the bank. The amount $598 in the Deposit column of the following cash receipts book is the total of the $200, $300, and $98.

Cash Receipts Book

Date	Account Credited	Explanation	R	General	Accounts Receiv-able	Sales Dis-c'nt.	Cash	Deposits
Jan. 11	Wm. Green	On Account			200		200	
15	Rent Revenue	Jan. rent		300			300	
18	R. T. Wilson	Inv. 318			100	2	98	598

Cash Disbursements. To safeguard the cash, cash disbursements should, as far as practicable, be made by check. Ordinarily, an enterprise will make

Deposited With

THE NATIONAL BANK OF TRADE

Spokane, Wash. .... 194...

For Credit Of

KINDLY DESCRIBE ITEMS DEPOSITED BY USING THE NUMBERS AS SHOWN ON THE BACK HEREOF.
In making this Deposit, the Depositor hereby agrees to the conditions stated on the back hereof and to the bank collection code of the State of Washington.

		Dollars	Cents
	Gold Coin Currency Silver		
Description		CHECKS Dollars	Cents

DEPOSIT SLIP

all payments by check except those for very small amounts. For this purpose a petty cash fund is maintained, the operation of which is explained in the following section.

As an additional safeguard the checks should be numbered when printed so that each check may be identified and accounted for. No checks should be destroyed, but if one is it should be attached to the stub, marked canceled, and retained.

When a check is made out, the business papers which verify the transaction should be attached to it and the check with the papers attached is delivered to the person or persons authorized to sign the check. Those who sign the checks should examine the attached papers to determine whether or not the payment is proper. As a final safeguard, two or more persons should sign each check.

Petty Cash. A petty cash fund is ordinarily established to enable small bills to be paid in cash.

Such a fund is established by the cashier making out and cashing a check to *cash*, the money being kept in the office. An entry is made in the

cash disbursements journal to debit an account Petty Cash and to credit the Cash account. The entry to establish a petty cash fund of $50 is illustrated below.

Cash Disbursements

Date		Account Debited	Explanation	R	General			Cash
Jan.	8	Petty Cash	Petty Cash Fund		50			50

When this amount is posted to the ledger account, the Petty Cash account would show the one amount:

Petty Cash

Jan.	8			50	00					

A receipt should be obtained and a record kept for each expenditure made from the petty cash fund. A very rough memorandum record may be kept as is usually the case in a small business, or a petty cash book may be used. In the latter case, a General or Sundries column is used and special columns provided for the types of expenditures most frequently made. The following is an illustration of a simple petty cash book form:

Petty Cash Book

Date		Explanation	Postage	Office Supplies	Delivery Exp.	Sundries		
						Account Name	R	Amount

The petty cash fund may be replenished whenever desired, but it must be replenished at the end of the accounting period. If $35 is expended from the fund, $15 for postage, $10 for office supplies, $5 for delivery expenses, and $5 for sales salaries, a check for $35 is cashed and the amount placed in the petty cash fund. This check is entered in the cash disbursements journal and debits are made to the respective accounts as below:

Cash Disbursements Journal

Date	Account Debited	Explanation	R	General			Cash
Jan. 31	Postage	To replenish		15			
	Office Supplies	petty cash		10			
	Delivery Expense	fund		5			
	Sales Salaries			5			35

The effect of this entry is to debit the expense accounts (sometimes asset and liability accounts) and to credit the Cash account.

This entry may be slightly confusing to the reader, who might have reasoned that a credit should have been made to the Petty Cash account for the total expended, and a debit made to this account when the fund was replenished. This procedure would be correct, but since the first entry would result in a credit to the Petty Cash account, and the second entry would result in a debit to this account for exactly the same amount, the same result is obtained by making one entry to debit the expense accounts and credit the Cash account when the fund is replenished. This method is known as the *Imprest method* of recording petty cash.

The petty cash book may be used as a book of original entry. When this is done the imprest method is not used, the expense and asset accounts being debited direct from the petty cash book and a credit made to the Petty Cash account. When the fund is replenished, a check is made out as before to *cash*, but the debit is made to the Petty Cash account. This method is used when there are debits to many expense accounts, in order to reduce the number of debits that would be required in the cash disbursements journal.

Change Fund. Most business firms must have cash available in order to make change for customers. This fund is provided by a check made out to *cash*, and the cash is retained in the cash drawers or in the cash registers.

The Bank Reconciliation. A statement is received from the bank at the end of each month, which shows the debits and credits made to the depositor's account during the month and the balance of the depositor's account at the end of the month.

A bank statement is illustrated on page 365.

The bank debits the depositor's account for the amount of each check that has been cashed, for n.s.f. checks that the depositor had deposited, and for the bank's charges for various services rendered. The credits to the depositor's account are ordinarily for the deposits he has made.

The balance of an active bank account will seldom be the same as the balance of the ledger account Cash or Bank on the depositor's own books. Checks that were issued but have not been cashed by the bank, called *outstanding checks* or *checks outstanding*, will ordinarily account for the major part of this difference. For example, if the balance of the ledger account Cash is $5,250 and the bank balance is $6,000, most of the difference of $750 will ordinarily be accounted for by the checks outstanding.

Other reasons for a difference between the bank balance and the depositor's Cash account balance are: deposits may not have been recorded

In Account With THE UNION NATIONAL BANK	W. B. Williams 6090 W. 49th St., Uniontown, Ill.

Checks	Deposits	Balance	
Balance brought forward			1,250.70
100.00 25.00	202.50	Apr. 3 '39	1,328.20*
75.50		Apr. 7 '39	1,252.70*
	416.80	Apr. 12 '39	1,669.50*
16.40	250.40	Apr. 14 '39	1,903.50*
48.90 60.40 20.10		Apr. 16 '39	1,774.10*
50.50	195.60	Apr. 17 '39	1,919,20*
	215.40	Apr. 18 '39	2,134.60*
39.60 18.90		Apr. 20 '39	2,076.10*
70.40 85.60	386.20	Apr. 21 '39	2,306.30*
40.20		Apr. 24 '39	2,266.10*
64.30	175.40	Apr. 26 '39	2,377.20*
58.60	75.75	Apr. 27 '39	2,394.35*
17.80		Apr. 28 '39	2,376.55*
99.25	290.50	Apr. 30 '39	2,567.80*

Please examine, if not correct, report at once.

The last amount in this column is your Balance at the end of the month. Please advise us immediately of any change in address.

by the bank; debits made by the bank may not have been recorded by the depositor; errors may have been made, and cash may have been embezzled. The depositor's books may show that a deposit was made on the last day of the month, but the bank may not have recorded this deposit until the first day of the following month. Frequently, the depositor does not enter bank charges until the following period. In addition errors may have been made either on the books of the depositor or by the bank; and in rare instances embezzlement may account for part of the difference, although an embezzler is usually sufficiently ingenious to see that the ledger balance of the Cash account will reconcile with the bank balance.

At the end of each month, a statement should be made up showing the items which account for the difference between the ledger account Cash and the bank balance. Such a statement is called a *Bank Reconciliation* or *Cash Reconciliation.*

When such a reconciliation is made, either the bank balance or the balance of the Cash account may be reconciled to the other. Ordinarily the bank balance is reconciled to the Cash account balance by deducting from the bank balance the amount of the outstanding checks, and adding to it any debits made by the bank which were not recorded on the depositor's books and any deposit recorded on the depositor's books but not recorded by the bank.

To illustrate, let us consider the following bank reconciliation:

Wm. Chase

Bank Reconciliation
January 31, 1939

Bank balance		$3,836.90
Deduct:		
Checks outstanding		
128	$146.20	
140	85.70	
155	42.60	
157	77.10	
158	115.65	467.25
		$3,369.65
Add:		
Bank debit memos not entered in cash book . .		2.80
Add:		
Deposit not recorded by bank		486.50
Ledger balance of Cash account.		$3,858.95

The total of the outstanding checks, $467.25, is deducted from the bank balance because the bank balance will be reduced by that amount when these checks are cashed.

Debit memos, that have been made out by the bank but not entered in the cash disbursements book, are added to the preceding figure, as the bank has reduced its balance by these amounts. Entries should be made in the cash disbursements book for these debit memos if they have not already been entered.

A deposit not entered on the bank statement but shown on the enterprise's books would be added to the bank balance because the bank balance would have been greater if this deposit had been recorded.

To summarize, it may be stated that in order to reconcile the bank balance to the ledger balance of the Cash account,

The total of the outstanding checks should be deducted from the bank balance.

Bank debit memos not entered on the books and deposits not recorded by the bank should be added to the bank balance.

In order to make up a bank reconciliation, the bookkeeper will need the following:

The bank statement with the canceled checks and any other debit slips.

The bank reconciliation for the preceding month.

The cash books.

In order to facilitate his work the accountant should arrange the canceled checks in numerical order. He should then take the checks in order placing a check mark beside the amount of each check on the bank statement and beside the corresponding amount in the cash disbursements journal or on the preceding bank reconciliation. Any unchecked amounts in the cash disbursements journal or among the checks listed as outstand-

ing on the preceding reconciliation are amounts of outstanding checks, which would be listed on the new reconciliation under the caption Checks Outstanding.

Any bank debit memos which had not been entered on the books of the enterprise during the period should be listed on the reconciliation and entered in the cash disbursements journal. These would ordinarily be for bank charges for services, or for n.s.f. checks.

The deposits shown on the bank statement are checked with those shown in the cash receipts journal, and the corresponding amounts are checked on the bank statement and in the cash receipts journal. Any unchecked deposits are listed on the reconciliation.

Business firms often make the reconciliation in another way. The bank balance and the balance of the ledger account Cash are listed in parallel vertical columns. Then, since the amount of the outstanding checks will reduce the bank balance when checks are cashed, this amount is deducted from the bank balance; and since bank charges unrecorded on the books would when recorded reduce the balance of the Cash account, the amount of these charges is deducted from the balance of the Cash account. Each item is treated similarly; an entry recorded by the bank but not recorded on the books is added to or subtracted from the ledger balance of the Cash account, and an entry made on the books but not recorded by the bank is added to or subtracted from the bank balance. Finally the same figure is obtained for each column, and this is the correct amount of the cash at the end of the period. This form of reconciliation is now illustrated for the data used before.

Wm. Chase

Bank Reconciliation
January 31, 1939

Bank balance, January 31			$3,836.90
Balance of the ledger account, Cash, January 31		$3,858.95	
Checks outstanding			
128	$146.20		
140	85.70		
155	42.60		
157	77.10		
158	115.65		467.25
		$3,858.95	$3,369.65
Bank debit memos unrecorded on the books		2.80	
Deposit unrecorded by the bank			486.50
		$3,856.15	$3,856.15

Payrolls. An enterprise which employs many workers must provide safeguards against improper payments.

One such safeguard is the time clock. Each employee punches his

Payroll M. Machine Shop

Week ending *May 9* 1944

Clock No.	Name	Hours Worked							Total Time		Rate	Reg. Earn'gs	O.T. Earn'gs	Total Earn'gs	Deductions			Paid
		S	M	T	W	T	F	S	Reg.	O.T.					Pens.	Grp. Ins.	Total	
1	Bird, A. E.		8	8	8	8	8		40		.80	32.00		32.00	.32	.48	.80	31.20
2	Breen, S. A.		8	4	8	8	8		36		1.00	36.00		36.00	.36	.54	.90	35.10
3	Church, E. L.		9	9	8	8	9		40	3	.80	32.00	3.60	35.60	.36	.54	.90	34.70

number on the clock when he enters and again when he leaves the plant. This provides a record on a tape or card from which a summary called a payroll is made up. The payroll ordinarily covers a period of time such as a week or a month, and shows the hours worked each day, the rate of pay, the earnings, the deductions, and the net amount due the employees. Sometimes no formal payroll is made up, but instead a card is made out for each employee, on which are listed the hours worked, the rate of pay, the earnings, the deductions, and the net amount. From such records the checks are made out to the employees.

The payroll provides the data for the entries that are made on the books.

In very small enterprises the total of the employees' checks may be entered in the cash disbursements book as follows:

Cash Disbursements Book

Date		Account Name	Explanation	R	General		Cash
Jan.	31	Sales Salaries			567.50		
		Office Salaries	Payroll checks Nos. 1–25		320.40		887.90

Business enterprises that pay by check use a payroll fund, the chief purposes of which are to keep the payroll checks out of the Cash account, thereby simplifying the bank reconciliation, and to facilitate the auditing of the payrolls. If at any time during a payroll period the employees' checks have all been cashed the fund would have no balance. Since comparatively few payroll checks will be outstanding at certain times, it will be quite easy to reconcile the balance of the payroll fund bank account with the ledger account Payroll Fund.

When employees are paid in cash, a payroll fund is not needed. One check, written for the total of the payments to the employees, is cashed to obtain the money, which is ordinarily placed in envelopes for the employees, who sign the payroll or some other receipt. The entry made would be exactly like the one illustrated in the cash disbursements book above. However, if there were many debits a journal entry like the following, only with more debits, would be made:

Jan. 31	Office Salary Expense	$2,000.00	
	Sales Salary Expense	6,250.00	
	Accrued Payroll		$8,167.50
	Old Age Pension Taxes Payable		82.50
	To record payroll Jan. 1–31, 1943		

The entry in the cash disbursements book would then be:

Jan. 31	Accrued Payroll	$8,167.50	
	Cash		$8,167.50
	To record payroll Jan. 1–31		

When a payroll fund is used, the recording of the payroll requires three steps, as follows:

1. A journal entry is made to record the debits which are usually to expense and cost accounts, and the credits to the liabilities Accrued Payroll, and Old Age Pension Taxes Payable.
2. An entry is made to establish the payroll fund.
3. An entry is made to record the payroll checks when written.

The entry to record the payroll of $8,250 would be made exactly as was illustrated above:

(1)

Jan. 31	Office Salary Expense	$2,000.00	
	Sales Salary Expense	6,250.00	
	Accrued Payroll		$8,167.50
	Old Age Pension Taxes Payable		82.50
	To record payroll Jan. 1–31		

The entry to establish the payroll fund would be made in the cash disbursements book as follows:

(2)

Jan. 31	Payroll Fund	$8,167.50	
	Cash		$8,167.50
	To establish fund for January payroll		

An entry would be made as follows when the checks were made out to the employees:

(3)

Feb. 5	Accrued Payroll	$8,167.50	
	Payroll Fund		$8,167.50
	To record checks Nos. 1–70		

The last entry is made on the assumption that the checks will be cashed almost immediately, and most of them will be; however, a few will not. Some accountants defer this third entry until the end of the accounting period, when they reconcile the payroll fund and reduce it to the amount of the outstanding checks by means of a journal entry.

The preceding entries were given in logical order, first the entry to record the expenses and costs and the liabilities, next the entry to establish the payroll fund, and finally the entry to record the payment of the employees. Frequently the first entry in the series is made last, because considerable analytical work may be necessary to obtain the debits to the expense and cost accounts. This is the case when the employees are paid each week but the labor records analyzed and tabulated semimonthly or monthly.

Workmen's Compensation Taxes. Most states have laws providing compensation for workers injured, killed, or in other ways incapacitated as a result of the hazards of the job. These laws may give the company the

option of making payments to the state or to a private insurance company. The rates vary with the hazards of the industry and the type of occupation, the rates for logging companies being among the highest and the rates being higher for factory than for office workers.

Frequently the state requires that the amount of the payroll be estimated and premiums paid in advance. When this is required an entry is made as follows:

Prepaid Workmen's Compensation Insurance	$3,000.00	
Cash		$3,000.00
To record estimated W. C. Insurance, Jan. 1 to March 31		

When the actual amount of the premiums is determined the expense accounts are debited and the Prepaid Workmen's Compensation Insurance account is credited, and if this amount is greater than the amount prepaid an accrual is recorded, thus:

Workmen's Compensation Insurance, Office	$ 35.00	
Workmen's Compensation Insurance, Sales	65.00	
Workmen's Compensation Insurance, Mill	900.00	
Workmen's Compensation Insurance, Logging	2,100.00	
Prepaid Workmen's Compensation Insurance		$3,000.00
Accrued Workmen's Compensation Insurance Payable		100.00
To record W. C. Ins., Jan. 1 to March 31		

Social Security Taxes. The Social Security Act provides for pensions for employees and their families on the retirement of the employee, and for unemployment compensation for the employee while he is temporarily unemployed. The pensions are to be provided by taxes paid by both employer and employee, but the unemployment compensation funds are to be provided by taxes on the employer alone. Most workers are covered under these acts. Examples of the exceptions are domestic help, farm labor, casual labor, state and Federal employees, and employees of nonprofit enterprises. Employers of one or more persons must pay the pension taxes, but under the provisions of the Federal act an employer does not pay the unemployment taxes unless he employs eight or more persons for one day during each of 20 weeks of the year. However, this limitation has been changed by some states, some of which require an employer of one or more persons to pay such taxes. The taxes apply only to salaries and wages up to $3,000 a year, or to the first $3,000 paid to the employee during the year. Each employer is required to have available certain information concerning each employee—his name, address, social security number, the date and amount of each payment for his services, the period covered by each payment, the taxable wages, the amounts of taxes collected and withheld, and the date and reason for termination of employment. Most employers make out a card for each employee on which such information is kept up to date.

Old Age Pension Taxes. As stated before, all employers of one or more persons, except for the occupations made exempt under the act, are subject to this tax, which is levied on both the employer and employee. The employer has the responsibility of collecting the employee's portion of the tax and paying it to the collector of internal revenue. The rate through 1945 is 1 per cent from each, and is supposed to increase as follows:

	Employer's Tax, %	*Employee's Tax, %*	*Total, %*
1946–1948	2½	2½	5
1949-	3	3	6

Legislation is now (1945) before Congress to increase the benefits and extend them to more workers. Consequently rates may be increased in the future.

The tax for each quarter of the calendar year is payable by the end of the month following the respective quarter. For example, the tax for the first quarter must be paid no later than April 30. The form known as Form SS–1a illustrated on pages 374–75 must be filed when payment is made to the collector of internal revenue.

An employer must give each employee a written statement of the deductions made from his earnings. This statement, which must be of such form that it can be retained by the employee, must be rendered with each payment, or monthly, quarterly, semiannually, or annually. Usually the statement is given to each employee with each payment to him. The statement must show the names of both the employer and employee, the amount of the wages, and the deduction therefrom.

Unemployment Taxes. Since the state administers the unemployment funds, we have both state and Federal laws to consider. The Federal law provides that employers of eight or more persons for one day during each of 20 weeks of the calendar year are subject to a tax of 3 per cent on the earnings of employees up to $3,000 during the calendar year. It will be observed that the entire amount of this tax is to be paid by the employer. State laws cannot make the requirements more lenient but can make them more severe, and some states have made employers of one or more employees subject to the tax. The Federal law provides that an employer may take as a credit against the 3 per cent, payments made to the state up to 90 per cent of the total tax. That is, the employer can take as a credit any amount up to 2.7 per cent of the employees' compensation, for unemployment insurance taxes he has paid the state. Since most states now require the payment of a tax of 2.7 per cent of the employee's compensation the usual payment to the collector of internal revenue is 0.3 per cent. The 0.3 per cent is paid annually to the collector of internal revenue, payment being due on or before January 31, of the following year. Form 940, illus-

trated on page 376, is filed at that time. The state law may provide that payments must be made quarterly or at some other interval.

The Recording of Social Security Taxes. The writer has found that the reader can more easily understand the recording of social security taxes if readjusting entries, except the one for the accrued payroll, are avoided. Let us consider the following adjusting entry made on December 31 to record the accrued payroll:

Dec. 31	Sales Salaries	$400	
	Office Salaries	200	
	Old Age Pension Taxes Payable		$ 6
	Accrued Payroll		594
	To record the payroll accrued on Dec. 31		

At this same time the following entry would be made to record the employer's old age pension tax liability of 1 per cent of the accrued payroll (assuming of course that no employee has received more than $3,000 during that calendar year):

Dec. 31	Social Security Taxes	$6	
	Old Age Pension Taxes Payable		$6
	To record 1% of accrued payroll		

On January 1 the following readjusting entry would be made in order to avoid the splitting up of the debits for the first payroll recorded in January:

Jan. 1	Old Age Pension Taxes Payable	$ 6	
	Accrued Payroll	594	
	Sales Salaries		$400
	Office Salaries		200
	To reverse the adjusting entry		

As a result of this entry a debit of $6 is made to the Old Age Pension Taxes Payable account and credits of $400 and $200 are made to the Sales Salaries and Office Salaries accounts, respectively.

Sales Salaries

xxx		xxx
	Jan. 1	400

Office Salaries

xxx		xxx
	Jan. 1	200

During January, as the employees are paid, the old age pension taxes are deducted from the payments, and credits for these amounts are made to the account Old Age Pension Taxes Payable. If the employees are paid on January 26 for the four weeks ending January 26 the following entry is made:

Jan. 26	Sales Salaries	$6,000	
	Office Salaries	3,000	
	Old Age Pension Taxes Payable		$ 90
	Accrued Payroll		8,910
	To record payroll payable on Jan. 26		

Form SS-1 a (Rev. Nov. 1940)
TREASURY DEPARTMENT
INTERNAL REVENUE SERVICE

EMPLOYER'S TAX RETURN

UNDER FEDERAL INSURANCE CONTRIBUTIONS ACT

READ INSTRUCTIONS CAREFULLY

1. Number of employees listed in Schedule A. ______
2. Total taxable wages PAID (from Item 21) ______ $ ______

EMPLOYERS' TAX

3. 1% of Item 2 ______ $ ______
4. Credit or adjustment $ ______ (Must be explained. See instructions)
5. Total employers' tax ______ $ ______

EMPLOYEES' TAX

6. 1% of Item 2 ______ $ ______
7. Credit or adjustment $ ______ (Must be explained. See instructions)
8. Total employees' tax ______ $ ______
9. Total tax (total of Items 5 and 8) ______ $ ______

IDENTIFICATION No. ______

10. Type or print in this space employer's name, address of principal place of business, and identification number. (See Item 13 of Instructions.)

11. I swear (or affirm) that I have examined this return, that it is made in good faith, and that to the best of my knowledge and belief all entries made herein, and contained in each schedule or statement attached and made a part hereof, are true, correct, and complete, and in accordance with the law and regulations applicable hereto.

(Signed) ______

(Title) ______
(Owner, president, partner, member, etc. See instructions)

Sworn to and subscribed before me this ______ day of ______, 194__

______
(Signature and title of officer administering oath or signatures of two witnesses)

______

If paid by check or money order, make payable to "U. S. Collector of Internal Revenue."

12. Date quarter ended

Taxpayer will NOT use this space

Total tax ______ $ ______
Penalty ______ $ ______
Interest ______ $ ______
Total ______ $ ______

CASHIER'S STAMP

(Do not use this space for seal)

DO *NOT* DETACH AT THIS LINE

SCHEDULE A—EMPLOYER'S REPORT OF TAXABLE WAGES PAID TO EACH EMPLOYEE

(List all employees to whom taxable wages were paid during the quarter)

IDENTIFICATION No. ______

13. Type or print in this space employer's name, address of principal place of business, and identification number. (See Item 13 of Instructions.)

14. Date quarter ended

If there is not enough space to list all employees below, use Schedule A continuation sheets (Form SS-1 b). Each such sheet must show a page number beginning with number 2. (See instructions on back of continuation sheet.)

15. Total pages of return, including continuation sheets attached ______

16. Has a change of ownership, or other transfer, of the business taken place during the quarter? ______ (Yes or no) If so, attach the statement called for in Item 16 of Instructions.

	Employee's Account Number (17)			Name of Employee (Type or print) (18)	Taxable Wages Paid Under Federal Insurance Contributions Act (19)		State (20)
	000	00	0000		*Dollars*	*Cents*	

TOTAL FOR THIS PAGE—Total taxable wages paid .... $........

21. TOTAL FOR THIS RETURN—Total taxable wages paid .... $........ This total must be the same as Item 2 above

(Do not use this space)

22. Number of taxable employees on pay roll covering last pay period (or pay periods) of quarter ....

THIS FORM MUST BE FILED WITH U. S. COLLECTOR OF INTERNAL REVENUE ON OR BEFORE THE LAST DAY OF THE FIRST MONTH FOLLOWING THE CLOSE OF THE QUARTER YEAR

16—12181-1

Form 940
TREASURY DEPARTMENT
INTERNAL REVENUE SERVICE

READ INSTRUCTIONS CAREFULLY

ANNUAL RETURN OF EXCISE TAX ON EMPLOYERS OF EIGHT OR MORE INDIVIDUALS

UNDER THE FEDERAL UNEMPLOYMENT TAX ACT

FOR CALENDAR YEAR 1943

FILE THIS RETURN WITH THE COLLECTOR OF INTERNAL REVENUE FOR YOUR DISTRICT NOT LATER THAN JANUARY 31, 1944

PRINT NAME AND ADDRESS

(Name of taxpayer)

(If individual or partnership, trade name, if used)

(Street and number, or rural route)

(Post office) (County) (State)

For use of Collector only
No.

Amount Paid, $
(Cashier's stamp)

Nature of business, in detail

Check (✓) form of organization: ☐ Corporation; ☐ Partnership, ☐ Individual, ☐ Other (Specify, such as estate, trust, etc.)

Date of organization . . . Was a return filed for 1942? . . . If not, see instructions

1. Total salaries, wages, and other remuneration PAID during 1943 for services of employees. $
2. Less: Total nontaxable remuneration paid. (From Schedule A—Must be explained in Schedule A or in separate statement attached as a part hereof) $
3. Total taxable wages (item 1 minus item 2) $
4. Tax (3 percent of item 3) $
5. Less. Credit for contributions paid into State funds, plus any additional credit as shown in Schedule B. Total credit limited to 90 percent of tax shown in item 4 $
6. Remainder of tax (item 4 minus item 5) $

AFFIDAVIT (See Instructions)

I swear (or affirm) that this return, including any accompanying schedules or statements, is a true, correct, and complete return made in good faith, for the calendar year stated, pursuant to the Federal Unemployment Tax Act and Regulations applicable thereto and that no part of any payment made to a State unemployment fund which is claimed as a credit in item 5 above was or is to be deducted from the remuneration of employees.

Signed or acknowledged before—

(Name) (Address) (Signed)

(Name) (Address) (Title)

Sworn to and subscribed before me this .... day of ...., 19..

16—65077-1

(Signature and title of officer administering oath)

The facing page shows the reverse of this form.

SCHEDULE A—EXEMPTIONS

This schedule must be prepared in accordance with the instructions entitled HOW TO PREPARE SCHEDULE A—EXEMPTIONS, to show all nontaxable remuneration paid to employees. The total of this schedule is to be entered in item 2 on face of this form. Any amount claimed in item 2 on the face of this return which is not fully explained in this schedule may be disallowed.

Classifications of Exemptions (Explain deductions, using separate sheet if necessary)	Approximate Number of Employees Involved	Amount Paid
Remuneration in excess of $3,000. (Enter only the excess over $3,000 paid to individual employees)		
All other exclusions or exceptions:		
Total	x x x x x x x	$

SCHEDULE B—COMPUTATION OF CREDIT
(See Instructions)

State in Which Employees Performed Services (1)	Taxable Pay Roll (as defined in State Act) (2)	Experience Rate Period (3) From—	To—	Experience Rate (4)	Contributions Had Rate Been 2.7% (col. 2 × 2.7%) (5)	Contributions at Experience Rate (col. 2 × col. 4) (6)	Additional Credit (col. 5—col. 6) (7)	Contributions Actually Paid to State (8)
Total	$	x x x x	x x x x x	x x x	x x x x x x	x x x x x x	$	$

9. Total tentative credit (col. 7 plus col. 8) .... $........
(That portion of item 9 which is not in excess of 90% of gross tax liability as shown in item 4 on face of this form should be entered in item 5 on face of this form.)

16—35077-1 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1943

After this entry is posted the salary accounts and the Old Age Pension Taxes Payable account would contain the following debits and credits:

Sales Salaries

	xxx		xxx
Jan. 26	6,000	Jan. 1	400

Office Salaries

	xxx		xxx
Jan. 26	3,000	Jan. 1	200

Old Age Pension Taxes Payable

Jan. 1	6	Dec. 29	xx
		31	6
		31	6
		Jan. 26	90

On January 31 the following adjusting entry would be made:

Jan. 31	Sales Salaries	$600	
	Office Salaries	300	
	Old Age Pension Taxes Payable		$ 9
	Accrued Payroll		891
	To record payroll accrued Jan. 27–31		

After this entry is posted the accounts would appear as follows:

Sales Salaries

Jan. 26	6,000	Jan. 1	400
31	600		

Office Salaries

Jan. 26	3,000	Jan. 1	200
31	300		

Old Age Pension Taxes Payable

Jan. 1	6	Dec. 29	xx
		31	6
		31	6
		Jan. 26	90
		31	9

The liability for the employees' portion of the old age pension tax on the January payroll is recorded, and it is necessary to record the employer's old age pension tax of 1 per cent (in 1945) of the salaries and wages up to $3,000 a year per person. The amount of the employer's tax for the period can be computed from the Trial Balance and Adjustments columns of the work sheet after the entry for the accrued payroll has been made. Based on the preceding entries the adjusting entry to record the employer's portion of the tax would be:

Jan. 31	Social Security Taxes	93	
	Old Age Pension Taxes Payable		93
	To record employer's 1% of sales salaries of $6,200 and office salaries of $3,100.		

Old Age Pension Taxes Payable

Jan.	6	Dec. 29	xx
		31	6
		31	6
		Jan. 26	90
		31	9
		31	93

The unemployment tax of 3 per cent of $6,200 and $3,100 should also be recorded as follows:

Jan. 31	Social Security Taxes	$279.00	
	Unemployment Taxes Payable, Federal		$ 27.90
	Unemployment Taxes Payable, State		251.10
	To record unemployment tax of 3 per cent of salaries and wages, 0.3% to collector of internal revenue and 2.7% to State.		

The balance of the Social Security Taxes account is now $93 plus $279, or $372. This balance may be closed to the Profit and Loss Summary account, and shown on the profit and loss statement as a general expense; or the balance may be redistributed on the basis of taxable wages and salaries of the different departments. Frequently, such accounts as Payroll Taxes—Selling, and Payroll Taxes—Office, and Payroll Taxes—Manufacturing, are opened. In these accounts both the social security taxes and the workmen's compensation taxes are sometimes recorded. The balance of $372 in the account used in the preceding illustration would be distributed as follows:

Jan. 31	Payroll Taxes, Selling	$248	
	Payroll Taxes, Office	$124	
	Social Security Taxes		$372
	To redistribute the balance of the Social Security Taxes account as follows: 4% of sales salaries of $6,200 or $248 4% of office salaries of $3,100 or $124		

Since the total of the social security tax expense in 1945 is 4 per cent of the salaries and wages, the balance of the account may be redistributed by taking 4 per cent of the sales salaries, office salaries, etc. for the accounting period, provided of course that no employee has received more than $3,000 during that calendar year.

The rate of 1 per cent was used for the entries for the old age pension tax; this rate will be changed, possibly frequently; however, the only change in the entries will be in the amounts. If the law should be changed to require only one tax on the employer, then instead of the entries at the bottom of page 378 and the top of 379 only one entry would be made.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. How would cash in a closed bank be shown on the balance sheet?

2. Are checks cash?

3. Define: a cashier's check; a certified check.

4. What is a system of internal check?

5. The Remington Department Store had 65 employees in 22 departments. Cash registers were used in each department. Outline rules and policies that should be followed in order to safeguard the store's cash.

6. How might a company protect itself from the possibility of checks being made out to fictitious employees by a dishonest paymaster?

7. How would you establish a petty cash fund of $150?

8. The sum of $80, all chargeable to the account Sundry Expenses, was expended from the petty cash fund. The fund is to be replenished. Give the entry made under the imprest method to replenish the fund.

9. The National Manufacturing Co. made many payments from its Petty Cash account. These payments were recorded in a petty cash book that had 20 special columns and a Sundries column. What entries would you make when you replenished the petty cash? Why?

10. A check for $50 was received on account from G. W. Brown, a customer. This check was returned by the bank as n.s.f. What entry would you make to record the returned check?

11. Why is a change fund sometimes used? How would you establish such a fund?

12. Why should the purchasing department and the receiving department approve all purchase invoices before the invoices are paid?

13. Why should someone in authority approve all credits, other than credits for cash received, made to customers' accounts?

14. What is a bank reconciliation?

15. If you were reconciling the bank balance to the balance of the ledger account, Cash, would you add the amount of the outstanding checks to the bank balance or deduct it from the bank balance?

16. In reconciling the bank balance to the ledger balance of the Cash account, you find that bank charges of $2.85 were not recorded on the books. What would you do with this amount on your reconciliation? What entry would you make?

17. Several checks cashed by the bank during February were not listed among the February cash disbursements. How do you account for this?

18. How would you establish a payroll fund for $16,250?

19. The payroll for the period amounted to $16,250; deductions were made as follows: Old age pension taxes $162.50, group insurance $81.25. The debit was to an account called Direct Labor. How would you record this payroll? What entry would you make to establish the payroll fund?

20. Why is a payroll fund used?

21. The bank balance on June 30, 1944, was $5,168.95. The balance of the Cash account was $4,866.40. The checks outstanding amounted to $304.60; bank charges amounted to $2.05. Make up the bank reconciliation.

22. How would you record workmen's compensation taxes?

23. How is the fund for the payment of employees' pensions provided?

24. What are the tax rates for employees' pensions?

25. When is the employer's tax for employees' pensions recorded?

26. Who pays the tax for unemployment insurance?

27. What is the amount of the unemployment tax? To whom are the payments made?

28. Are all employers subject to the unemployment taxes?

29. When are unemployment taxes recorded?

30. Give the entry to record unemployment taxes on a payroll of $100,000, all of which is subject to the tax.

LABORATORY PROBLEMS

1. On August 31, 1944, the balance of the ledger account Cash was $8,243.75. Checks totaling $942.70 were outstanding. The bank had collected a note of $500

for the company; the cash proceeds from this note had not been entered in the cash book. Bank charges of $4.75 for August had not been entered in the cash book. What should the balance shown on the bank statement on August 31, 1944, be?

2. On October 31, 1944, the balance of the ledger account Cash amounted to $4,407.75. The checks outstanding amounted to $786.90. Cash of $546.25 received in October was not deposited until November 1. A check for $156.10 deposited in the bank was recorded on the books at $165.10. The bank balance was $4,639.40.

(a) Make the bank reconciliation.

(b) Would any entries be made on the books?

3. The balance of the ledger account Cash on the books of the Midwest Steel Co. was $60,495.00 on July 31, 1944. The bank balance was $56,599.10. In making the bank reconciliation it was found that cash of $5,215.60 received on July 31 was not deposited in the bank, and that the following checks were outstanding on that date:

No. 648	$645.60
665	310.20
692	95.10
708	425.30

Collection charges of $6.50 for July were not recorded in the cash book. A check for $150, returned by the bank as n.s.f., had not been recorded on the books.

(a) Reconcile the cash.

(b) What entries, if any, would you make on the books?

4. The following was the bank reconciliation of May 31, 1944:

Jerome and Hauser

Bank Reconciliation
May 31, 1944

Bank Balance		$5,397.50
Deduct:		
Checks Outstanding:		
Number 69	$100.00	
72	416.10	
78	56.20	
81	14.70	587.00
Ledger Balance		$4,810.50

The bank statement on June 30, 1944, was as follows:

THE MIDWAY NATIONAL BANK

In account with Jerome and Hauser, June 30, 1944

Date	Debits			Deposits	Balance
June 1					$5,397.50
4	$416.10	65.40		$115.10	5,031.10
11	76.70	56.20	69.25	315.60	5,144.65
16	10.15	25.40			5,109.10
18	115.60			195.90	5,189.40
22	101.20				5,088.20
24	74.25	64.80		211.60	5,160.75
30	3.85				5,156.80
	Balance				$5,156.80

The deposits shown in the cash receipts book were as follows:

June 4	$115.10
11	315.60
18	195.90
24	211.60
30	215.60

The Cash column of the cash disbursements book showed the following amounts:

No. 82	$65.40	No. 88	$ 42.90
No. 83	99.80	No. 89	115.60
No. 84	76.70	No. 90	101.20
No. 85	69.25	No. 91	74.25
No. 86	10.15	No. 92	64.80
No. 87	25.40		

The balance of the ledger account Cash was $5,118.85 on June 30.

(a) Reconcile the cash.

(b) Make any entries that are necessary.

5. The following is the bank reconciliation of the Eastern States Fuel Co. on June 30, 1943:

Bank Reconciliation
Merchants National Bank
June 30, 1943

Bank balance, June 30		$6,210.15
Less:		
Checks outstanding		
No. 1156	$118.20	
1185	256.40	
1188	98.60	
1192	110.15	
1203	25.50	
1206	165.30	
1211	215.25	
1212	648.20	
1225	96.80	1,734.40
		$4,475.75
Deposit, June 30, not credited by bank		726.10
		$5,201.85
n. s. f. check		20.00
		$5,221.85
Bank charges		6.15
Cash account balance		$5,228.00

The *cash receipts* book showed the following deposits during July:

$317.80, $543.10, $177.40, $415.90.
$786.20, $540.25, $116.80, $795.40.

The following were the amounts entered in the *cash disbursements book* during July:

	$ 20.00	No. 1234	$ 15.70	No. 1241	$ 87.40
	6.15	1235	98.10	1242	177.20
		1236	77.20	1243	93.80
No. 1230	185.90	1237	116.80	1244	110.40
1231	116.10	1238	595.10	1245	79.60
1232	172.40	1239	28.70	1246	42.30
1233	78.60	1240	90.50	1247	215.20
				1248	194.40
				1249	60.50

The balance of the ledger account Cash was $6,258.80 on July 31.

The bank statement for July showed the following debits and credits:

	Debits					Credits
No. 1156	$118.20	No. 1234	$ 15.70	No. 1244	$110.40	$6,210.15
1188	98.60	1236	77.20	1247	215.20	726.10
1192	110.15	1237	116.80	Bank charges	5.85	317.80
1203	25.50	1238	595.10			543.10
1206	165.30	1239	28.70			177.40
1211	215.25	1240	90.50			415.90
1225	96.80	1241	87.40			786.20
1230	185.90	1242	177.20			540.25
1231	116.10	1243	93.80			116.80
1233	78.60					
				Bank balance July 31		$7,009.45

(a) Make up the bank reconciliation as of July 31, 1943.

(b) From this reconciliation make any entries required on the books.

6. The bank balance on August 31 was $6,238.20. The following facts were determined:

The checks outstanding amounted to $894.10.

Bank charges of $4.15 were not entered in the cash disbursements book.

An n. s. f. check for $36.10 was not entered in the cash disbursements book.

A deposit of $493.60 entered in the cash receipts book as of August 31 was not recorded by the bank.

(a) If no errors were made, what was the balance of the Cash account?

(b) Make the entries that should be made on the books.

7. (a) Make the entry to establish a petty cash fund of $100.00.

(b) Make the entry to replenish the petty cash if $65.10 was expended for office expenses.

(c) The petty cash book had columns with totals as follows: Freight Out, $23.10; Sales Supplies, $14.30; Office Supplies, $12.20; Stamps, $16.25. The debits in the Sundries column were: Prepaid Insurance, $9.20 and Advances to Employees, $10.00. Make a journal entry to debit the accounts, and make the entry to replenish the petty cash fund.

8. The following are the debits to be made for the July payroll:

	Dr.
Direct Labor	$52,500
Indirect Labor	10,500
Sales Salaries	7,500
Office Salaries	4,500
Executive Salaries	10,000

The deduction for old age pensions is $850.

(a) Make a journal entry to show the debits and credits that would be made to establish a payroll fund for this payroll.

(b) Make the journal entry you would make to record the costs and expenses.

(c) Make the journal entry that would be made when the checks were made out to the employees.

9. The payroll for the year was as follows:

Sales Salaries	$12,000
Office Salaries	4,000

For the last 3 months of the year the sales salaries were $2,800 and the office salaries were $900.

During the year old age pension deductions of $123 were made from the employees' checks; these amounts were paid to the collector of internal revenue. On December 31 the credit balance of the liability account Old Age Pension Taxes Payable was $37; this was the amount of the tax for the last 3 months.

(a) Make the entry as of December 31 to record the employer's old age tax liability for the last 3 months of the year [debit Social Security Taxes].

(b) Make the entry as of December 31 to record the unemployment insurance taxes, assuming that 2.7 per cent of the payroll is payable to the state and 0.3 per cent to the Federal government [debit Social Security Taxes].

(c) Make the journal entry to redistribute the balance of the Social Security Taxes account.

10. (a) In a particular state the workmen's compensation taxes for each year must be paid by January 31 of the following year. The tax rates for the Wilton Manufacturing Co. are 0.5 per cent on salesmen's salaries and 0.25 per cent on office salaries. The payroll for 1944 was as follows: sales salaries $25,000, and office salaries $9,000. Make the entry on December 31, 1944, to record the workmen's compensation taxes.

(b) Make the entry on January 16 to record the payment of the taxes.

CHAPTER XXII. THE VOUCHER SYSTEM

The Voucher System. Most business firms use some variation of a system called the *voucher system* whose chief purpose is to provide control over cash disbursements. The owner of a small business may be able to control the cash disbursements by signing all the checks himself, but usually a more formal method is necessary.

Under the most common system a voucher is made out for each payment. A voucher is a form containing such data as the invoice number, the amount of the invoice, and other identifying details, which when signed authorizes the payment. The following is an example of a voucher:

Voucher No. 159
Check No. 138

THE HARMON MANUFACTURING CO.

Pay to R. B. Winter
1508 1st Ave. S.
New York, N. Y.

Terms: 2/10, n/30

	Amount	
June 12. Invoice No. 128.	58	20
	58	20

Account Debited Purchases

R. E. Kerr — Treasurer | *J. G. Harter* — Auditor

VOUCHER

Frequently the data on the invoice are copied on the voucher form. However, a considerable amount of labor is saved if this detail is omitted. The reverse side of the voucher may contain the names of the common accounts to be debited along with other details. However, as its use requires the removal of the voucher from the typewriter, the changing of the carbon, and the reinsertion of the voucher in the machine, the practice is better avoided.

Voucher forms vary. The voucher and check are sometimes combined on one form called a *voucher check*. This form is seldom used because it is often desirable to make out the check at a later time.

The invoice or other business papers verifying the transaction are attached to the voucher. These papers should bear the proper signatures or stamps of approval. As stated before a purchase invoice should bear the stamp and initials of someone in the purchasing department and of someone in the receiving department. This is done to show that the order was placed, that the goods were received, and that the amount is correct. When the voucher is signed by the proper person or persons, payment of the amount is authorized. Whether a voucher should be made out for each invoice, or for a number of invoices from a particular creditor will be discussed later.

The Voucher Register. Each voucher is entered in the voucher register, the total of the vouchers being posted to the credit of a Vouchers Payable account (or to the credit of Accounts Payable). Ordinarily no purchase journal and accounts payable ledger are used.

Columns are provided in the voucher register for the following:

The date
The name of the payee to be shown on the check
The number of the check by which the voucher is paid
The voucher number
The amount
The names of the accounts to be debited.

The space for the date and the name of the payee to whom the voucher is made out are self-explanatory.

The column for the number of the check is often entitled "Paid" or "When Paid." No entry is made in this column when the voucher is made out, but when the voucher is paid the check number is entered there. If the voucher is canceled this is indicated in the Paid column. If the voucher is canceled by a journal entry the page number of the journal is shown in the Paid column as follows, "J. E. XX."

The number of the voucher is entered in a column headed Voucher Number.

The amount of each voucher is entered in a column entitled Vouchers Payable. The total of this column is credited to Accounts Payable or to Vouchers Payable usually at the end of the month.

Numerous special debit columns are included for the accounts to be debited. Special columns are provided for debits to expense, cost, or asset accounts, which occur in volume, and a General or Sundries amount column and space for the account name are included for debits for which there are no special columns.

Voucher Register

Date	Payee	Paid	Vcr. No.	Vouchers Pay.	Pens. Tax. Pay	Purchases	Freight In	Sales Supplies	Sales Sal.	Advertising	Delivery Exp.	Office Sal.	Sundry Off. Exp.	Sundries Amount	Sundries R	Sundries Account
May 1	J. B. Baker	24	1	2,500 80		2,500 80										
3	Sanders Agency	23	2	194 60						194 60						
4	Eastern Freight		3	25 50			25 50									
4	W. B. Sampson		4	11 20							11 20					
6	Wilson Supply	25	5	12 50										12 50	17	Office Supplies
7	A. E. Kerr	26	6	1,215 10		1,215 10										
9	Petty cash	27	7	100 00										100 00	5	Petty cash
11	Brown Bros.		8	2,142 10		2,142 10										
12	Eastern Freight	30	9	32 60			32 60									
13	Union Parcel	28	10	15 50							15 50					
14	A. B. Green Co.	29	11	250 00		250 00										
14	R. West Supply	31	12	75 00				75 00								
14	E. N. Graves	32	13	200 00						200 00						
14	Payroll	33	14	1,188 00	12 00				800 00			400 00				
16	A.K.CrumbCo.	36	15	3,225 30		3,225 30										
17	B. W. Manufacturing Co.		16	1,725 00		1,725 00										
17	Eastern Freight	34	17	68 30			68 30									
18	Union Parcel	35	18	14 20							14 20					
19	J. B. Baker		19	1,650 50		1,650 50										
20	City Tribune	37	20	35 00						35 00						
20	A. E. Hirst		21	15 25									15 25			
21	Northern Insur Co.	38	22	48 80										48 80	15	Prepaid Insurance
22	King Wholesale Co	J. 85	23	1,450 50		1,450 50										
24	Union Parcel		24	13 50							13 50					
25	Black Sales Co.	39	25	26 10									26 10			
27	A. E. Kruz		26	1,762 20		1,762 20										
28	A. B. Green Co	43	27	365 50		365 50										
28	R. West Supply	44	28	45 00				45 00								
28	E. N. Graves	40	29	100 00						100 00						
28	Payroll	41	30	1,287 00	13 00				900 00			400 00				
31	Petty cash	42	31	69 80									69 80			
				19,864 85 (25)	25 00 (28)	16,287 00 (98)	126 40 (99)	120 00 (16)	1,700 00 (111)	529 60 (115)	54 40 (119)	800 00 (128)	111 15 (132)	161 30 √		

Entries in the Voucher Register. Most of the explanations and illustrations in this chapter will be based on the assumption that a voucher is made out for each invoice. This is not considered the best practice; but it is easier to explain and illustrate the use of the voucher register in this way.

When a voucher is made out, the date, the name of the creditor, the explanation, and the voucher number are entered in the voucher register, and the amount of the voucher is entered in the Vouchers Payable column. As stated before this latter column is a credit column, the total of which is posted to the credit of the account Vouchers Payable. The debit or debits will be entered in one or more of the special columns, or if there is no special column for a debit the amount will be entered in the column captioned Sundries or General. (*A credit may be entered in the Sundries column in red ink or in black ink "circled."*)

The effect of an entry in the voucher register is to debit an expense or asset account, and sometimes a liability account, and to credit a liability. *The one account, Accounts Payable or Vouchers Payable, replaces the Accounts Payable account in the general ledger and the vouchers take the place of the accounts payable ledger.*

The postings from the voucher register illustrated on page 387 are made as follows:

Credits:

The total of the Vouchers Payable column, $19,864.85, is posted to the credit of the Vouchers Payable account.

The total of the Pension Taxes Payable column, $25.00, is posted to the credit of an account Old Age Pension Taxes Payable or to some such account showing the liability to the Federal government.

Debits:

The totals of the special columns are posted to the respective ledger accounts—Purchases, $16,287.00; Freight In, $126.40; Sales Supplies, $120; Sales Salaries, $1,700; Advertising, $529.60; Delivery Expenses, $54.40; Office Salaries, $800; and Sundry Office Expenses, $111.15.

Each amount in the Sundries column, unless the amount is in red ink or black ink circled, is posted to the debit of the respective account—Office Supplies, $12.50; Petty Cash, $100; Prepaid Insurance, $48.80.

Before the postings are made from the voucher register the totals of the columns are cross-footed to determine that the voucher register is in balance and that equal debits and credits will be made in the ledger accounts if the postings are made correctly.

Advantages of the Voucher System. The two major advantages of the voucher system are:

It provides better control over cash.

It saves labor by eliminating the posting to the creditors' accounts.

Better control over the cash is obtained because:

The actual approval of the disbursements is placed in the hands of the operating departments.

The approval of the disbursements by the operating departments is checked by one or more persons in authority who examine the business papers before signing the vouchers.

Each voucher is filed with the business papers and retained as evidence of the transaction as long as is necessary.

The voucher system removes the approval of disbursements from the comptroller or treasurer to the operating departments since business papers which are approved by the operating executives are the basis for the approval of the payment. For example, the treasurer does not determine that a certain purchase invoice may be paid, but this is done by the stamps of approval placed upon the invoice by the purchasing and receiving departments. The same is true of a salesman's expense account; the approval of the sales manager must be shown on the papers before the payment may properly be made. Thus, before the comptroller, treasurer, or auditor signs the voucher for payment, it has been approved by operating executives.

Finally, the control over the cash is increased because the auditing procedure is much more effective. The vouchers are usually filed in numerical order with the business papers attached thus enabling the auditor to compare the vouchers with the business papers and examine both for the proper signatures or stamps of approval.

When the invoices from a particular creditor can be paid at the end of the month without the loss of discounts, they may be filed in a folder under each creditor's name, and at the end of the month one voucher may then be made out for all the invoices from each creditor. This is a great deal less laborious than the use of the purchase journal and accounts payable ledger. On the other hand, when a voucher must be made out for each invoice it is questionable whether there is any saving in labor, for instead of the postings to the creditors' accounts the vouchers must be made out, and this may require as much work as the posting.

Other minor advantages claimed for the voucher system are that it facilitates the taking of discounts and reduces the number of adjusting entries. Since the vouchers may be filed by date of payment, better control over discounts is supposedly obtained. Fewer adjusting entries are required because vouchers can be made out for some expenses which are not ordinarily recorded until paid. In this way the expense will be recorded even though payment is not made until later. However, these latter advantages are not always of sufficient merit alone to warrant the use of the voucher system.

Disadvantages of the Voucher System. The chief disadvantages of the voucher system arise:

When many purchase returns or allowances are made; when many notes payable are given in settlement of vouchers; when many partial payments are made.

When a continuous record is desired of the total purchases made from each individual supplier.

When many purchase returns are made, notes issued, or partial payments made, the voucher system may prove too cumbersome to be of much value. When the reader has covered the sections dealing with methods of recording purchase returns, notes issued in settlement of vouchers, and partial payments, he will see that when there are many such transactions the additional work, along with other disadvantages, may so nullify the advantages of the voucher system that it may not be worth while to use it.

When detailed information is desired about the purchases from each creditor, the use of an accounts payable ledger may prove desirable.

Cash Disbursements. Since the debits to the various expense and asset accounts have been made through the voucher register, a very simple cash disbursements book will ordinarily be used. If purchase discounts are recorded when the bill is paid, the cash disbursements book requires amount columns for Vouchers Payable, Purchase Discounts, and Cash.

Cash Disbursements

Date		Payee	Check No.	Voucher No.	Voucher Payable	Purchase Discounts	Cash
Jan.	8	R. W. Stultz	1	5	300.00	6.00	294.00
	9	A. B. Graham	2	3	50.00		50.00
	9	Green Bros.	3	1	100.00	2.00	98.00
	30	Young and Gray	25	28	200.00		200.00
					4,325.00	101.00	4,224.00
					(38)	(76)	(2)

The amounts are posted as follows:

The total of the Vouchers Payable column is debited to the Vouchers Payable account.

The total of the Purchase Discounts column is credited to the Purchase Discounts account.

The total of the Cash column is credited to the Cash account.

The voucher number and the check number are entered in their respective columns.

Voucher Procedure. The operation of the voucher system generally requires the following steps:

1. Verifying the invoices.
2. Preparing the vouchers.
3. Entering the vouchers in the voucher register.
4. Filing the vouchers by the date of payment in the Unpaid Vouchers file.
5. Making out the checks. (The checks may be made out with the vouchers in order to save labor.)
6. Entering the check numbers in the voucher register.
7. Signing the checks. (The vouchers are usually attached to the checks.)
8. Entering the checks in the cash disbursements book.
9. Mailing the checks to the creditors.
10. Filing the vouchers in a file called the Paid Vouchers file.
11. Placing the duplicate vouchers in the creditors' file. (This is done when vouchers are made out in duplicate.)
12. Filing the canceled checks in numerical order.

The invoice is verified exactly as has been explained. Both the purchasing department and the receiving department should approve invoices for merchandise; and so far as is practicable operating executives should approve all disbursements.

The voucher is usually prepared by a voucher clerk or a stenographer who makes it out from the invoice or other business papers. The vouchers are received from the printer with the numbers printed upon them and are made out in serial order by a clerk, and with the business papers attached are sent to the proper persons for signature.

The signed voucher is then entered in the voucher register as explained on page 388.

The voucher is then filed by the date of payment in an Unpaid Vouchers file, or if all payments are made at the end of the month the vouchers may be filed by creditors' names.

On the date when the voucher (or vouchers) must be paid the check is made out and sent, together with the signed voucher, to the persons authorized to sign checks.

The vouchers are then filed, usually in numerical order along with the business papers, in a Paid Vouchers file. Sometimes a duplicate voucher is made out with the original voucher and filed under the creditor's name.

Creditors' Index. Since no accounts are kept with creditors the purchases from a particular creditor cannot be obtained from the ordinary records. If this information is needed two methods may be used to obtain it: Duplicate vouchers may be made out and filed under each creditor's name, or a creditors' index may be kept. A creditors' index is simply a file of cards, each card containing a creditor's name, and the numbers and amounts of the vouchers made out to the creditor are listed on that creditor's card. These cards are usually filed alphabetically. A form of such a card is illustrated on page 392.

WINN & JONES			
Voucher Number	Amount	Voucher Number	Amount

CREDITOR'S CARD

Purchase Discounts under the Voucher System. It has been explained that there are different ways of recording purchase discounts, and the same is true when the voucher system is used. They may be recorded:

When the payment is made.
When the voucher is recorded: by making out the vouchers for the net amount, which is recorded.

Purchase Discounts Recorded When the Payment Is Made. The debits and credits required under this method have already been explained. The purchase discount is disregarded until the voucher is paid, at which time the check is entered in the cash disbursements book where the purchase discount is recorded in a special column headed Purchases Discounts.

The voucher is made out for the gross amount, and that amount is entered in the voucher register, the debit being to Purchases and the credit to Vouchers Payable.

When the payment is made, the account Vouchers Payable is debited with the gross amount, Purchase Discounts is credited with the amount of the discount, and Cash is credited with the net amount. If the voucher is made out for $100, and 2 per cent discount is taken when the payment is made, the entry in the cash disbursements book is a debit to Vouchers Payable of $100, a credit to Cash of $98, and a credit to Purchase Discounts of $2.

The Voucher Made Out for the Net Amount. The voucher may be made out for the net amount of the invoice, that is, for the amount of the invoice less the discount. This amount would be entered in the Voucher register as a debit to Purchases and a credit to Vouchers Payable.

If the discount is taken, the check is made out for the net amount, and when entered in the cash disbursements book Vouchers Payable is debited and Cash credited. Under this method no record of the discount appears on the books.

If the discount is not taken, a new voucher is made out to the same

payee for the amount of the discount. This voucher is entered in the voucher register, the debit being made to Purchase Discounts Lost.

Under this method of handling purchase discounts only one amount column is needed in the cash disbursements journal, the total of which is debited to Vouchers Payable and credited to Cash.

Partial Payments on Vouchers. When a partial payment is made on a voucher, the check is entered in the cash disbursements journal, and the check number is entered in the Paid column of the voucher register. The voucher is then reduced by the amount of the partial payment.

For example, a partial payment of $50 is made on voucher No. 25 for $150 made out on January 8 to Armor Supply Co. Check No. 85 for $50 is entered on January 30 in the cash disbursements journal as follows:

Cash Disbursements Journal

Date	Voucher	Check No.	Voucher No.	Vouchers Payable	Purchase Discounts	Cash
Jan. 30	Armor Supply Co.	85	25	50		50

The check number and the amount are then entered in the Paid column of the voucher register as follows:

Voucher Register

Date	Voucher	Voucher No.	Paid	Vouchers Payable	Purchases	
Jan. 8	Armor Supply Co.	25	85, $50	150	150	

The voucher is then reduced from $150 to $100.

There are many other ways of recording partial payments on vouchers. For example, the entries for the original voucher may be reversed by a journal entry debiting Vouchers Payable and crediting Purchases or whatever accounts are involved. The original voucher is then canceled and two new vouchers are made out, and entered, one for the amount of the partial payment and one for the balance. The check for the partial payment is then entered in the cash disbursements journal, and the check number is entered in the Paid column of the voucher register opposite the voucher for the amount of the partial payment.

Purchase Returns and Allowances. When goods are received they are counted and inspected to determine whether they correspond with the invoice both as to quality and quantity. Corrections are then made on the invoice and the voucher is made out for the corrected amount. But when goods are returned to the trade-creditor or an allowance is received from the trade-creditor, after the voucher has been entered, an entry may be

made in red ink or in black ink "circled" in the voucher register. If the return is made before the voucher register is totaled and posted, the entry may be made above that for the original voucher, which is reduced by this amount. For example, if a purchase return of $40 was made on June 12 on voucher No. 110 for $120, made out to Minton Co. on June 8, the return may be recorded as follows:

Voucher Register

Date	Voucher	Voucher No.	Paid	Vouchers Payable	Purchases	
June 12				(40)	(40)	
June 8	Minton Co.	110		120	120	

Two totals are obtained for both the Vouchers Payable column and the Purchases column, a black ink total and a black ink total "circled," as follows:

Voucher Register

Date	Voucher	Voucher No.	Paid	Vouchers Payable	Purchases	
	Cr. Vouchers Payable			15,600	11,800	Dr. Purchases
	Dr. Vouchers Payable			(900)	(900)	Cr. Purchase Returns and Allowances

The black ink totals of the voucher register would be posted in the usual way. There would be a credit of $15,600 to Vouchers Payable, a debit of $11,800 to Purchases, and debits to other accounts.

The "circled" totals would be entered as follows:

Dr. Vouchers Payable $900
Cr. Purchases Returns and Allowances $900

If the voucher register has been totaled, this method must be varied slightly. For example, if the return to Minton Co. had been made on July 12 and the totals of the voucher register had been posted on June 30, the entry would be made in the voucher register on July 12 as follows:

Voucher Register

Date	Voucher	Voucher No.	Paid	Vouchers Payable	Purchases	
July 12	Minton Co.	110		(40)	(40)	

These circled amounts would then appear in the circled totals for July and would be posted at that time as a debit to Vouchers Payable and a credit to Purchase Returns and Allowances.

There are many other simple ways of recording purchase returns and allowances. For example, a journal entry may be made to debit Vouchers Payable and credit Purchase Returns and Allowances for the amount of the return. The journal page number and the amount are then entered in the Paid column of the voucher register opposite the amount of the original voucher, and the voucher is reduced by the amount of the return.

Payment of a Voucher by a Note Payable. If, after a voucher has been made out, it is agreed to give a note payable to a creditor, *a journal entry is made to cancel the voucher.* The number of the journal page on which the entry is made is entered in the Paid column opposite the voucher. The journal entry would be:

Vouchers Payable	xx	
Notes Payable		xx
To record note payable given to R. Went in payment of voucher xx		

Later, when the note matures, a voucher is made out to authorize the payment of the note. This voucher is entered in the voucher register, Notes Payable being debited and Vouchers Payable credited.

If a note payable of $1,000 is given to Green Bros., to whom voucher No. 86 had been made out, the following journal entry would be made:

Vouchers Payable	1,000	
Notes Payable		1,000
To record 60-day, 6% note given to Green Bros., for voucher No. 86		

The journal page number would be entered in the Paid column.

When the note is paid, a new voucher is made out for the face of the note plus the interest. The debits in the voucher register are made to Notes Payable and to Interest Expense.

Correction of Errors. Errors of different types may be made in the voucher register. A debit may be placed in the wrong column, or the voucher may be entered at an incorrect amount. In the latter case the amount may be too high or too low.

When an amount is entered in a wrong column and postings have not been made, the correction is made by simply ruling out the amount incorrectly entered, and entering it in the proper column. When the error is not found until after the postings have been made the correction may be made by journal entry as explained in Chapter X.

When a voucher is entered at an amount lower than the correct amount

the easiest way to make the correction is to make out and enter a new voucher for the difference between the amount entered and the correct amount.

When a voucher is entered at an amount higher than the correct amount, the correction is best made by means of a journal entry to reverse the original entry, and the original voucher is canceled. A new voucher is then made out for the correct amount and entered as before.

Summary of Unusual Voucher Transactions. We shall now briefly summarize the transactions discussed in the preceding paragraphs.

1. *Partial payments.* The check for the partial payment is entered in the cash disbursements journal, and its number and amount are entered in the Paid column of the voucher register opposite the voucher. The voucher is reduced by this amount.

2. *Purchase returns and allowances.* If the return or allowance is made before the postings have been made, the amount is entered in red ink or black ink circled on the same line and just above the original voucher. If the postings have been made, the amount is entered in red ink or black ink circled as of the date of the entry. In both instances the original voucher is reduced by the amount of the return or allowance.

3. *Note payable issued for a voucher.* When a note payable is issued for a payment for which a voucher had been made out, a journal entry is made to debit Vouchers Payable and credit Notes Payable for the amount of the note, and the voucher is canceled.

4. *Correction of a voucher entered at too low an amount.* A new voucher is made out for the difference between the original voucher and the correct amount. This voucher is entered in the voucher register, the debit and credit being the same as for the original voucher.

5. *Correction of a voucher entered at too high an amount.* A journal entry is made to reverse the original entry in the voucher register, and the original voucher is canceled. A new voucher is made out for the correct amount and entered in the voucher register as before.

Schedule of Unpaid Vouchers. At the end of each period a schedule of unpaid vouchers is made up from the Paid and Vouchers Payable columns of the voucher register. The Paid column shows whether or not a voucher has been paid, whether a partial payment has been made, or whether the voucher has been reduced or canceled by journal entry.

The total of these vouchers should agree with the balance of the Vouchers Payable account in the voucher register.

Petty Cash under the Voucher System. When a petty cash fund is established a voucher is made out to authorize the transaction. This voucher is entered in the Vouchers Payable column of the voucher register, and the debit is made in the Sundries column to Petty Cash. The check is then written

and entered in the Vouchers Payable and Cash columns of the cash disbursements book.

When the fund is replenished, a voucher, which is made out for the amount of the expenses, is entered in the Vouchers Payable column of the voucher register, the debits being made to the respective expense accounts. The check is written as before and entered in the cash disbursements book as a debit to Vouchers Payable.

The debits may be posted direct from the petty cash book to the expense and asset accounts if there are many different debits. When this is done the total of these disbursements is credited to the Petty Cash account. The fund is then replenished by making out a voucher which is debited to the Petty Cash account, not to the expense accounts. Finally, the check is written for this voucher and entered in the cash disbursements book. Some of the larger firms use petty cash vouchers to authorize payments from the petty cash fund.

Recording the Payroll under the Voucher System. When the employees are paid in cash a voucher is made out for the payroll. Credits are made in the Vouchers Payable column and in the Old Age Pensions Payable column, the debits being made in the respective special columns or in the Sundries column. The check is entered in the cash disbursements journal.

When the employees are paid by check a payroll fund is ordinarily used, and the entries are made somewhat as follows:

Office Salaries	$2,000.00	
Sales Salaries	6,250.00	
Accrued Payroll		$8,167.50
Old Age Pension Taxes Payable		82.50
To record payroll		

A voucher is then made out for the deposit to the payroll fund and entered in the voucher register, with the following result:

Payroll Fund	$8,167.50	
Vouchers Payable		$8,167.50

When the checks to the employees are written a journal entry is made as follows:

Accrued Payroll	$8,167.50	
Payroll Fund		$8,167.50
To record payroll fund checks Nos. 1–70		

The Voucher System in Business Practice. The voucher system is sometimes used exactly as it was described in this chapter, but ordinarily it is used in such a way as to effect greater savings in labor. The following methods are commonly followed:

1. One voucher is made out for all the invoices received during a month from a trade-creditor.
2. Vouchers are made out only for payments for which there are no invoices.
3. No vouchers are made out, but at the end of the month a check is made out for all the invoices from each trade-creditor. The checks are entered in a check register which will be similar in form to a voucher register.
4. Both the voucher system and accounts payable records are used.

The first method is used in two ways. Under one method the invoices received during a month from each trade-creditor are filed alphabetically. At the end of the month one voucher is made out to each creditor for all the invoices, the number and amount of each invoice being listed on this voucher. Or this procedure may be slightly varied by a voucher being made out to each trade-creditor when his first invoice is received and approved. These vouchers are filed alphabetically in an Unsigned Vouchers File, and each additional invoice received from that trade-creditor is listed on this voucher. At the end of the month the vouchers are signed and entered in the voucher register. Both these variations of the first method save a great deal of labor in the recording process. The first variation is ordinarily the greater labor saver, but it results in a peak load at the end of the month, whereas the second variation results in the work being done throughout the month.

Many business enterprises vary the voucher system by requiring that vouchers be made out only for payments for which no invoices are received. The invoices from a trade-creditor are filed alphabetically, and at the end of the month an entry is made in the voucher register for the total of the invoices from each creditor, but no vouchers made out.

Some business enterprises use a third method under which they virtually combine the voucher register and the cash disbursements book. They file the invoices by trade-creditors' names, and at the end of the month make out one check to each trade-creditor. These checks are entered in a check register as credits to Cash or to the Bank and as debits in the respective debit columns.

The voucher system may not eliminate all accounts payable, for certain transactions may be more conveniently recorded in the general ledger. To illustrate, let us consider the purchase of a machine from the Bouchard Machine Tool Co. for $10,000 on the following terms: $2,000 to be paid down, $2,000 when the machine is tested, and $1,000 each month thereafter until the balance is paid. If these transactions were recorded in the voucher register, a voucher would be made out for $10,000, and later, eight partial payments would be recorded. Obviously, this method is not satisfactory. A better method is to record the purchase of the machine by a journal entry to debit Machinery and Equipment $10,000 and credit the Bouchard Machine Tool Co. $10,000, as follows:

Machinery and Equipment	$10,000	
Bouchard Machine Tool Co.		$10,000
To record invoice No. 165		

Each time a partial payment is to be made, a voucher is made out for the amount, the debit being made to the Bouchard Machine Tool Co. account in the general ledger.

Such transactions might occur in sufficient volume to justify the use of an accounts payable ledger. When this is so, a credit column headed Accounts Payable is included in the voucher register. Credits to accounts payable are entered in this column, the debits being made in the special and Sundries columns. The total of the Accounts Payable column is credited to the Accounts Payable control account, and each amount in the column is posted to the credit of a trade-creditor's account in the accounts payable ledger. An Accounts Payable debit column may also be included in the voucher register, and each time a voucher is entered for which the debit is to an account payable, the amount would be entered in this column.

Changing to the Voucher System. The following are two common methods of changing from an accounts payable system to a voucher system.

1. The name of the Accounts Payable control account is changed to Vouchers Payable and used as the control account, and vouchers are made out for new obligations; these vouchers are of course entered in the voucher register. All payments will be debited to Vouchers Payable through the cash disbursements journal, but the payments on the trade-creditors' accounts will be posted to these accounts in the accounts payable ledger. When the balances of these trade-creditors' accounts have been paid the conversion to the voucher system will be complete.
2. The change may be made immediately by making out vouchers for each invoice or for the balance of each trade-creditor's account. These vouchers are entered in the voucher register, the columns of which are immediately totaled and ruled off; no postings are made, since the entries have already been made. All new obligations will be entered and posted in the usual way. Again, the name of the Accounts Payable control account in the general ledger is changed to Vouchers Payable, and this account serves as the control account.

Expense Ledgers. Obviously, if a great many different expenses occur in volume it would be impracticable to have a special column in the voucher register, or for that matter in any other book of original entry, for each of these expenses. For this reason, if for no other, expense ledgers are often used, particularly for the selling and general and administrative expenses; and the general ledger would contain the control accounts Selling Expenses, and General and Administrative Expenses.

The voucher register would contain columns headed Selling Expenses and General and Administrative Expenses. The total of each of these columns would be posted to the debit of the respective control accounts. For example, the total of the General and Administrative Expenses column

General and Administrative Expense Ledger

	Office Salaries		Office Supplies		Credit, Collect.		Bad Debts		Prop. Taxes		Soc. Sec. Taxes		Insur.		Deprec.	
	R	Amount	R	Amount	R	Amount	R	Amount	R	Amount	R	Amount	R	Amount	R	Amount
Jan.	V 1	155.20	J9	43.80	V 1	75.00	J9	166.80	J9	11.50	J10	213.20	J9	16.20	J9	105.10
	V 4	150.00			V 1	15.00										
	V 8	150.00			V 3	8.50										
	V13	152.10			V 4	75.00										
	J 9	65.30			V 8	75.00										
					V13	75.00										
		672.60		43.80		323.50		166.80		11.50		213.20		16.20		105.10
Feb.																

would be posted to the debit of the General and Administrative Expenses account, and each amount in this column would be posted either from this column or from the voucher, to the respective account in the General and Administrative Expenses ledger. If the amounts are posted from the voucher register, Reference columns are usually included with each special column as follows:

Gen'l & Adm. Exp.		
R	Amount	

When the amount is posted, the number of the particular expense account, a symbol for that account, or simply a check mark is placed in the Reference column to show that the amount was posted.

Since credits are seldom made to expense accounts except to close these accounts, only one column is needed for each separate expense in an expense ledger. Consequently such ledgers are usually made up of columnar sheets of paper. If any credits are made, the amounts may be circled or enclosed in parentheses. An example of such a ledger is shown on page 400.

Usually the different expense ledgers are included in one book with "tabs" identifying each ledger.

The use of expense ledgers usually greatly simplifies the voucher register by reducing the number of columns. Large enterprises with many expense accounts will usually obtain, by the use of expense ledgers, the usual advantages obtained from the use of subsidiary ledgers.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What is a voucher?
2. What is a voucher register?
3. Explain how the following vouchers would be entered in a voucher register with the following amount columns: Vouchers Payable, Purchases, Freight In, Sales Salaries, Office Salaries, Sales Supplies, and Sundries:

Voucher No. 1 for a purchase of merchandise from the Fargo Wholesale Co., \$400.
Voucher No. 2 for the purchase of merchandise from the Chicago Grocery, \$700.
Voucher No. 3 for the payment to Henry Wilkins, an office employee, of his salary, \$50.
Voucher No. 4 for the purchase of a typewriter from the Barton Distributing Co., \$150.
Voucher No. 5 for insurance for one year from Eastern Fire Insurance Co., \$60.
Voucher No. 6 for the salary of A. James, a salesman, \$60.

4. Explain how you would post from the voucher register used in question 3 to the ledger.
5. What columns would you need in a cash disbursements book to be used with the voucher register used in question 3 if purchase discounts are recorded when the payment is made?
6. What are the advantages obtained from using the voucher system?

7. What are its disadvantages?

8. Merchandise is purchased from Tewberg Bros. for $500 subject to a discount of 2 per cent. Give two ways that such a transaction might be recorded under the voucher system.

9. Give two ways of recording partial payments. Explain in detail exactly what would be done under each method.

10. How would you record the issue of a $1,000 note payable to Wm. White in settlement of your voucher for that amount to him?

11. On January 2 you purchased merchandise for $300 from Arthur Burns. On January 12 you gave Mr. Burns your 30-day note for $300. On February 11 you paid $300 to Mr. Burns. Explain what entries you would make on each of the three dates. The voucher system is used.

12. On June 8 merchandise was purchased from the Breton Packers for $700. On June 12 merchandise purchased for $400 was returned. How would you record the purchase return?

13. Refer to question 12. Explain how you would record the purchase return under the following conditions if the purchase was subject to a discount of 3 per cent for payment within 10 days.

(a) The discount was disregarded until the payment was made, at which time it was recorded.

(b) The voucher was made out for $679, and this amount was entered in the Voucher Payable column and in the Purchases column.

14. What is a creditors' index?

15. What entries would be made to record a payroll for $8,000 when the employees are paid in cash? Debit the expense to one account Labor Expense and ignore Federal pension taxes.

16. Under the voucher system, how would you establish a petty cash fund of $200? How would you replenish the fund after $125 had been expended for sundry expenses?

17. What are some variations from the voucher system as it was explained in Chapter XXII? Give the advantages and disadvantages of each.

18. What is an expense ledger?

19. What changes would be made in the voucher register if it was decided to use a selling expense ledger?

20. Refer to question 15. Explain what entries would be made if a payroll fund were used and payments made by check.

LABORATORY PROBLEMS

1. (a) Among the many columns in the voucher register of Hile Bros. are debit columns for Purchases and Sundries. For practice, draw up a voucher register with these debit columns and a Vouchers Payable column, and a cash disbursements book which includes a column for purchase discounts, and enter the following transactions, numbering the vouchers and checks consecutively.

June	6	Purchased merchandise from Uniontown Wholesale, $250, terms 2/10, n/30.
	8	Bought office supplies from Wilton Supply Co. for $50 cash.
	12	Purchased merchandise from Arlington Produce Co., $300, terms 1/10, n/30.
	15	Bought a typewriter on credit from the Imperial Typewriter Co., $125. Paid Uniontown Wholesale voucher of June 6.
	18	Purchased merchandise from Williams Bros., $100, terms 2/10, n/30.

20 Bought fire insurance from Mid-West Fire Insurance Co., $80, cash. Paid Arlington Produce Co. voucher of June 12.
26 Purchased merchandise from Arlington Produce Co., $150, terms, 1/10, n/30.
28 Paid Imperial Typewriter Co., voucher of June 15.
Paid Williams Bros. voucher of June 18. Established a petty cash fund of $50.

(b) Open T accounts and post to these accounts.

2. The following vouchers are to be entered in voucher register of A. E. Crum:

May 8 Bronton Manufacturing Co., voucher No. 25, $300, debited to Purchases.
15 Wilson Hardware Co., voucher No. 40, $200, debited to Purchases.
28 Howard Manufacturing Co., voucher No. 70, $250, debited to Purchases.

On May 12 check No. 35 for $100 was made out to Bronton Manufacturing Co. as a payment on voucher No. 25.

On May 16 merchandise purchased for $75 was returned to Wilson Hardware Co.

On May 31 a 60-day, 6 per cent note payable was given in settlement of voucher No. 70.

You are required to make the entries in the proper books for the transactions of May 12, May 16, and May 31. No purchase discounts were received.

3. Prepare:

A voucher register with columns for the date, payee, voucher number, paid, vouchers payable, purchases, freight in, advertising, office salaries, and sundries.

A cash disbursements book with columns for the date, payee, voucher number, check number, vouchers payable, purchase discounts, cash.

A two-column general journal.

Enter the following transactions in the above books and post to T accounts. Number vouchers and checks consecutively. All transactions are on credit unless otherwise stated.

April 1 Purchased merchandise from A. R. Burns and Co., $325.50. Bought fire insurance for one year from the General Insurance Co. $98.40 cash.
3 Paid freight in to Coast Lines on merchandise received on April 1, $33.40. Bought office supplies from the Wells Equipment Co., $46.20, cash.
6 Purchased merchandise from T. W. Burton, $165.30. Paid freight in to Coast Lines, $43.15. Bought a typewriter from the Miller Agency, $110.00.
8 Bought sales supplies from Blake and Green Paper Co., $65.20. Paid *City Times* for advertisement which appeared on April 2, $65.40.
12 Purchased merchandise from Nelson Brokerage, $175.80. Paid B. M. Harrison rent for April, $175. Paid A. R. Burns $200.00 on voucher of April 1.
14 Paid freight in to Eastern Transport, $22.40. Paid *Morning Tribune* for advertisement which appeared on April 8, $48.60.
15 Paid E. R. Clark, bookkeeper, salary, $75. Paid H. E. Burke, office clerk, salary, $40. [Disregard social security taxes.]
17 Purchased merchandise from A. R. Burns and Co., $248.20. Paid *City Herald* for April advertisement, $34.40.
21 Paid freight in to Coast Lines, $28.10. Made out voucher and check to replenish the petty cash, $25.20 [all sundry office expenses]. Gave Nelson Brokerage a 60-day, 4 per cent note payable for invoice of April 12. Paid T. W. Burton voucher of April 6, less 2 per cent.
22 Purchased merchandise from T. W. Burton, $195.60. Gave A. R. Burns a 60-day, 4 per cent note for balance of voucher of April 1.
25 Paid freight in to Coast Lines, $22.60. Paid *City Times* for April advertisement, $30.95. Returned merchandise to A. R. Burns, voucher of April 17, $36.80.
28 Purchased merchandise from E. B. Sells Co., $76.40. Returned merchandise to T. W.

Burton, $45.80, voucher of April 22. Paid *Morning Tribune* for April advertisement, $43.50.

30 Paid freight in to Eastern Transport, $10.60. Paid bookkeeper and office clerk same as on April 15. Paid E. Hart and R. Billows, salesmen, salaries of $150 and $175, respectively.

4. The payroll debits for the month of June were as follows:

Sales Salaries	$8,425.25
Delivery Salaries	3,265.50
Office Salaries	985.60
Store Repair and Maintenance Expenses	215.50

(a) Using a voucher register containing columns for Vouchers Payable, Old Age Pensions Payable, Sales Salaries, Delivery Salaries, Office Salaries, and Store Repair and Maintenance Expenses, make the entries in the books of original entry for the above payroll when a payroll fund is not used.

(b) Same instructions as those for part (a) except that a payroll fund is used for the payment of the employees.

5. The following are the columns of the voucher register: Date, Payee, Paid Voucher Number, Vouchers Payable, Old Age Pension Taxes Payable, Purchases, Freight In, Sales Salaries, Delivery Salaries, Office Salaries, Store Maintenance Expenses, Sales Supplies, and Sundries. Prepare such a voucher register, a cash disbursements journal, and a two-column general journal. No payroll fund is used in paying the employees. Number vouchers and checks consecutively. Enter the following transactions for September:

Sept. 1 Purchased merchandise from Harlan Products, $312.40, terms 2/10, n/30. Purchased merchandise from Humber Manufacturing Co., $185.40, terms 1/10, n/30. Bought sales supplies from Angeles Paper Co., $65.80, on credit.

3 Purchased merchandise from Armco Manufacturing Co., $240.20, terms 1/10, n/30. Paid freight in to Eastern Pacific Co., $98.60. Returned merchandise, invoiced at $65.20 on September 1, to Humber Manufacturing Co.

6 The following was the payroll for the first week of September: sales salaries, $695.40; office salaries, $95.00; delivery salaries, $225.10; store maintenance expenses, $40.00. Record the payment of the payroll, deducting social security taxes.

8 Purchased merchandise from Ernst Supply Co., $175.80, terms n/30. Paid Central States Insurance Co. for fire insurance for one year, $112.50.

13 Record payment of the payroll which was the same as that of September 6. Paid freight in to Eastern Pacific Railway, $34.60.

15 Issued a 90-day, 5 per cent note to Armco Manufacturing Co. for voucher of September 3, the discount was lost. Bought sales supplies from Nelson Bros., $76.40 cash. Issued a 60-day, 5 per cent note to Harlan Bros. for invoice of September 1.

16 Purchased merchandise from Southern Producers, $98.90, terms n/30. Purchased merchandise from Harmon Bros., $105.60, terms 1/10, n/30. Paid freight in to General Trucking Co., $16.50. Purchased sales supplies on credit from Humber Supply Co., $78.40.

20 Record payment of the payroll which was the same as on September 6 except that the sales salaries were $742.10, and the delivery salaries $240.40. Paid Ernst Supply Co. $95.20 on voucher of September 8. Returned merchandise, invoiced at $25.20, to Harmon Bros., and gave them a note for the balance of the voucher of September 16.

21 Purchased merchandise from Harlan Products, $115.80, terms 2/10, n/30. Paid freight in to General Trucking Co., $30.25. Purchased sales supplies on credit from Angeles Paper Co., $52.00.

23 Bought office supplies from Miller Rand Co., $45.10 cash. Paid *Eastern Telegram* for September advertising, $96.80.
26 Record the payment of the payroll which was the same as that of September 6. Purchased merchandise from Harlan Products, $120.10, terms 2/10, n/30.
28 Paid Harlan Products invoice of Sept. 21.
29 Issued a 60-day, 4 per cent note to Southern Producers for voucher of September 16. Paid Western Union for telegrams, $9.95. Paid on Harlan Products voucher of September 26, $75.
30 Record payment of the payroll which was the same as that of September 6. Paid Union Telegraph Co. for September bill, $23.20. Paid A. N. King, the general manager, his salary of $500; make no deduction for social security taxes. Paid Southcoast Utilities $53.80 for heat and light for September. Paid $78.60 to Seward Service for gasoline and oil used during September.

6. Make up a voucher register with the following columns: Date, Payee, Voucher Number, Paid, Vouchers Payable, and Purchases. Make up a cash disbursements journal with the columns Date, Payee, Check Number, Voucher Number, and Amount. Any journal entries required may be made in a two-column general journal. The purchases are to be entered at the net amount, that is, at the amount of the invoice less the discount. Enter the following transactions:

Oct. 7 Received merchandise and invoice from H. B. Swift, $500, terms 2/10, n/30; entered voucher No. 335.
8 Received merchandise and invoice from Greton Morse, $880, terms 1/10, n/30; entered voucher No. 338.
15 Received merchandise and invoice from Howland Johnson Co., $400, terms 2/10, n/30; entered voucher No. 350.
17 Paid H. B. Swift voucher No. 335, check No. 216. Returned merchandise, purchased on October 15 and invoiced at $300, to Howland Johnson Co.
18 Received merchandise and invoice from Smith and Mills, $350, terms 2/10, n/30; entered voucher No. 357.
21 Paid Greton Morse voucher of October 8, check No. 225.
23 Received merchandise and invoice from J. B. Adams, $720, terms 1/10, n/30; entered voucher No. 360.
25 Paid J. B. Adams $200 on voucher of October 23, check No. 228.
28 Gave Smith and Mills a 30-day note for their voucher of October 18, losing the discount.

7. Same as problem 5, except that purchase invoices are to be entered at the net amounts.

CHAPTER XXIII. DEPARTMENTAL ACCOUNTING

Information Needed. In order to make intelligent decisions the management of a departmental business may require the following information from the accounting department.

The gross margin by departments.

The margin provided by each department after the variable direct expenses are deducted from the revenue.

The Wm. Bright Store

Statement of Profit and Loss
Year Ending Dec. 31, 1944

	Men's Clothing	*Ladies' Ready-to-Wear*	*Shoes*	*Total*
Sales	$110,000	$140,800	$96,400	$347,200
Less: Sales Ret. and Allow. . . .	1,500	3,500	2,000	7,000
Net Sales	108,500	137,300	94,400	340,200
Cost of Goods Sold				
Inventory, Jan. 1, 1944	9,600	13,400	12,600	35,600
Purchases (net)	64,400	90,700	49,200	204,300
Transportation In and Receiving . .	2,600	4,000	6,000	12,600
	76,600	108,100	67,800	252,500
Inventory, Dec. 31, 1944	11,600	12,800	22,400	46,800
	65,000	95,300	45,400	205,700
Gross Margin	43,500	42,000	49,000	134,500
Other Variable Direct Expenses				
Salaries	15,600	17,400	9,800	42,800
Supplies Used	800	900	500	2,200
Insurance and Taxes on Inventory . .	200	300	400	900
Advertising	3,000	4,000	2,000	9,000
Social Security Taxes	600	650	350	1,600
	20,200	23,250	13,050	56,500
Margin over the Variable Direct Exp. . .	23,300	18,750	35,950	78,000
Fixed Direct Expenses				
Depreciation of Store Furn. & Fixt.. .	400	400	500	1,300
Depreciation of Building	800	600	700	2,100
Property Insurance and Taxes . . .	300	200	300	800
	1,500	1,200	1,500	4,200
Margin over Direct Expenses.	21,800	17,550	34,450	73,800
Indirect Expenses (Sched. 1)	8,600	10,900	6,800	26,300
Operating Profit by Departments . . .	$ 13,200	$ 6,650	$27,650	$ 47,500
Bad Debts				1,200
Operating Profit				$ 46,300

The margin provided by each department after all the direct expenses, including the fixed direct expenses, are deducted from the revenue.

The margin provided by each department after all the direct expenses, and the portions of the indirect expenses allocated to each department are deducted from the revenue.

The profit by lines, at least by major lines, within the departments.

The profit by classes of customers, by territories, and sometimes by method of delivery (particularly for wholesale firms).

The profit and loss statement may be prepared in such a way as to provide a considerable part of this information. Such a statement is discussed in the following section.

The Statement of Profit and Loss for a Departmental Business. The form of statement illustrated on page 406 provides the gross margin by departments, the margin after all the variable direct expenses have been deducted, the margin after the variable direct expenses and the fixed direct expenses have been deducted, and finally the operating profit.

Thus the statement shows whether the revenue from each department is covering that department's variable expenses, its variable and fixed expenses, and whether or not it is covering a reasonable portion of the indirect expenses.

If the statement of profit and loss is likely to take more than one page, details of the various expense classifications may be presented on supporting schedules. For example, the cost of goods sold may be shown as one amount for each department and a supporting schedule made up to show the inventories, purchases, etc. The same may be done for the variable direct expenses, the fixed direct expenses, and the indirect expenses. Only one schedule is used to support the profit and loss statement illustrated on page 406 and that is a schedule of the indirect expenses, which would be made up as follows:

The Wm. Bright Store

Schedule 1: Indirect Expenses
Year Ending Dec. 31, 1944

	Men's Clothing	*Ladies' Ready-to-Wear*	*Shoes*	*Total*
Manager's Salary	$4,000	$ 5,000	$3,000	$12,000
Office Salaries	1,100	1,500	1,000	3,600
Office Supplies Used	300	600	300	1,200
Credit and Coll. Exp.	1,100	1,500	1,000	3,600
Delivery Expenses	800	1,200	400	2,400
Heat and Light	200	300	300	800
Telephone and Telegraph	400	500	300	1,200
Sundry Expenses	700	300	500	1,500
	$8,600	$10,900	$6,800	$26,300

Expense Classification.[1] The reader is already familiar with the expenses that enter into the cost of goods sold classification, and with the fundamental difference between direct and indirect expenses, however a brief discussion of the direct and indirect expenses of a departmental business is desirable at this time. The cost of the goods sold is a direct expense but the amount is usually shown separately in order that the gross margin may be shown on the statement of profit and loss. The remainder of the expenses, except incidentals like interest, may be classified as follows:

Other Direct Expenses
- (a) Variable Direct Expenses
- (b) Fixed Direct Expenses

Indirect Expenses

As explained before, the direct expenses of a department are those expenses for which that department alone is responsible. The cost of goods sold, the salaries of clerks, salesmen's commissions, sales supplies used, and newspaper advertising are examples of direct expenses.

The direct expenses may be further classified into variable and fixed. The expenses mentioned in the preceding paragraph are examples of variable direct expenses. Examples of fixed direct expenses are those such as depreciation, insurance, and taxes on the fixtures and equipment used by each department and on the portion of the building used by the department. In different businesses the direct expenses classified as variable and fixed will vary somewhat with the needs of the particular business. However, it is now quite a common practice of many department stores to include as fixed direct expenses only the costs of equipment and space used by the departments.

The indirect expenses of a departmental business are those expenses that apply to more than one department. Examples of such expenses are the general manager's salary, office expenses, credit and collection expenses, delivery expenses, and heat and light.

Allocation of Expenses to Departments. The fixed direct expenses and the indirect expenses are usually allocated to the departments.

The fixed direct expenses such as depreciation, insurance, and taxes are recorded in the usual way. Those on equipment are usually allocated to the departments on the basis of the cost of equipment. Those on the portion of the building used by each department are usually allocated in proportion to the space used by each department, adjustments sometimes being made because of the location of the space.

It is sometimes argued that depreciation, insurance, and taxes should not be considered direct expenses of departments because the department

[1] For an excellent discussion of expense distribution see J. B. Heckert, *Analysis and Control of Distribution Costs*, The Ronald Press Co., New York 1940.

managers do not have control over these expenses. Ordinarily, however, it is desirable to allocate such expenses to departments, for the department manager does have control over them in that he has control over the quantity of space and equipment that he uses. The allocation of such expenses to the departments impresses upon the department managers the cost of such space and equipment with the result that these managers will not demand additional space and equipment unless they can see that it can be used to advantage.

The case for the allocation of the indirect expenses to departments is not quite as strong. The connection between the indirect expenses and each department is more remote than that of the fixed direct expenses and the departments. Certainly, unless these expenses can be allocated to departments on some basis that will give reasonable approximations of the costs of the services used by these departments, the expenses would better not be allocated to departments. It is not uncommon to find indirect expenses distributed in proportion to the sales of each department, and many of these expenses have little relationship to sales. Such a method of allocation instead of increasing the information provided the management is more likely to be misleading. However, when the distribution can be made on reasonably accurate bases, the executives are provided with the revenues of each department and a reasonably accurate approximation of the costs of the goods and services used by that department in providing revenues.

A few examples will now be given of the bases on which individual expenses are allocated to departments. The cost of heat and light is usually allocated to departments in proportion to the space used by each department. Delivery expenses should be analyzed to determine the extent to which various departments use the delivery service. If there are any special peculiarities in the goods delivered or in the distance covered, such differences should be taken into consideration in determining the allocation. The office expenses usually vary with departments. Those departments doing a large credit business will require more office expense than those doing a greater portion of their business for cash. Little of the cost of keeping the accounts receivable records and of billing customers should be charged to a department like the candy department, which does most of its business for cash. Payroll expense will vary with the number of employees in each department. Ordinarily, it is necessary to classify the office expenses and allocate different expenses on different bases.

Some deductions like bad debts may or may not be allocated to departments. Frequently the amount of the bad debts is allocated to departments on the basis of the sales or credit sales of the departments. In other instances the amount is not allocated but is shown as a deduction in the total column of the profit and loss statement as illustrated on page 406.

Ordinarily miscellaneous items like interest and purchase discounts lost are not allocated to departments.

Statements showing the allocation of the fixed direct expenses and the indirect expenses to departments are usually made up similar to the statement illustrated on page 407.

The Departmental Work Sheet. The work sheet for a departmental business may be varied slightly in many different ways from that with which the reader is already familiar. If there are only a few departments, separate profit and loss columns may be used, in addition to the general profit and loss column, for each department. However, when there are a great many departments, this method is usually too cumbersome.

Ordinarily a work sheet procedure almost exactly the same as that already discussed will be satisfactory in a departmental business. One innovation is, however, usually desirable, and that is to dispense with the cost of goods sold accounts. This is done because, if there were many cost of goods sold accounts the work sheet would be unduly lengthened. The final inventories are entered on the work sheet when the adjusting entries are made, but the amounts are entered opposite the inventory account names in the Profit and Loss credit column and in the Balance Sheet debit column as follows:

Williams and Howard

Work Sheet
Dec. 31, 1944

Account Name	Trial Balance		Adjustments		Profit and Loss		Balance Sheet	
Accounts Rec.	xxxxx						xxxxx	
Inventory of Shoes	12,000					15,000	15,000	

When the adjusting entries are made on the work sheet, the cost of the final inventory of shoes, $15,000, is entered in the Profit and Loss credit column and in the Balance Sheet debit column. No journal entries are made for the inventories when adjusting journal entries are made; the inventories are recorded on the books when the closing entries are made. When the total of the Profit and Loss credit column is entered in the journal as a credit the Profit and Loss Summary account debits are made to the respective inventory accounts. (Since cost of goods sold accounts are not used the inventories are closed to the Profit and Loss Summary account.)

When the amounts are extended from the Adjusted Trial Balance columns, the amounts of the beginning inventories are entered in the Profit and Loss debit column. Thus the entries on the work sheet opposite an inventory account name would appear as follows:

Williams and Howard
Work Sheet
Dec. 31, 1944

Account Name	Trial Balance		Adjusted Trial Balance		Profit and Loss		Balance Sheet	
Accounts Rec.	xxxxx		xxx				xxxxx	
Inventory of Shoes	12,000		12,000		12,000	15,000	15,000	

When the closing journal entries are made from the Profit and Loss columns, the total of the Profit and Loss debit column is entered as a debit to the Profit and Loss Summary account, and as the credits are made to the respective accounts, a credit of $12,000 is made to the Inventory of Shoes account.

The statement of profit and loss is made up from the Profit and Loss columns of the work sheet supplemented by the statements showing the distribution of the fixed direct expenses and the indirect expenses.

The Gross Margin. We shall now attempt to illustrate how the information provided by the profit and loss statement of a departmental business may be used by the management of the business. First, we shall discuss the gross margin.

The gross margin made by each department often enters into managerial decisions relative to the elimination of departments. Some store executives insist that a department yield a certain minimum rate of gross margin. If this rate is not obtained, or is unlikely to be, they try to find something to substitute for the department.

However, the gross margin alone is not sufficient evidence of the contribution made by a department to the operating profit. If the expenses other than cost of goods sold were relatively low compared with sales, a low gross margin might result in a high operating profit. For example, let us consider two departments, A and B, the profit and loss statements of which were as follows:

	Dept. A	*Dept. B*
Sales	$50,000	$50,000
Cost of Goods Sold	40,000	30,000
Gross Margin	10,000	20,000
Other Expenses	2,000	14,000
Operating Profit	$ 8,000	$ 6,000

Although department A had a gross margin of only 20 per cent of sales compared with a rate of 40 per cent for department B, department A because of its proportionately lower expenses is more profitable than department B. An even stronger case may be presented for departments that do a large volume of business on a low gross margin. Compare departments X and Y, the profit and loss statements of which follow:

	Dept. X	Dept. Y
Sales	$100,000	$50,000
Cost of Goods Sold	80,000	35,000
Gross Margin	20,000	15,000
Other Expenses	8,000	10,000
Operating Profit	$ 12,000	$ 5,000

Although the gross margin of 20 per cent of department X is less than that of department Y, which is 30 per cent of sales, the operating profit of department X is higher than that of department Y. The percentage of the operating profit to sales is 12 per cent for department X and 10 per cent for department Y, and in total amount is more than twice as great as that of department Y. The percentage of gross margin to sales might be only 18 per cent for department X as compared with department Y, yet the total operating profit from department X would be greater.

The percentage of gross margin needed by a department or on a product varies with the costs of that department or product. When the percentage of these costs to sales is high, the gross margin must be high. The expenses that apply to "slow-moving" goods are ordinarily high in proportion to sales, particularly such costs as those of carrying inventories, of space, and of salesmen. As a result, a high gross margin must be obtained to cover these expenses and still provide a profit. The expenses that apply to "fast-moving" items are usually relatively low in proportion to sales, particularly the costs of carrying inventories, of space, and of selling. Consequently the gross margin on such items may be relatively low.

The Margin over the Variable Direct Expenses. The following statement of profit and loss for a department is used as an illustration:

Sales		$50,000
Cost of Goods Sold		36,000
Gross Margin		14,000
Other Variable Direct Expenses		
Sales Salaries	$3,000	
Advertising Expenses	1,500	
Supplies Used	800	
Sundry	600	5,900
Margin over Variable Direct Exp.		8,100
Fixed Direct Expenses		
Dep. Furn. and Fixt.	600	
Dep. of Bldgs.	500	
Ins. and Taxes on Furn. and Fixt.	200	
Ins. and Taxes on Bldg.	300	1,600
Margin over Direct Expenses		6,500
Indirect Expenses		
Delivery Expenses	3,600	
Executive Expenses	2,000	
Office Expenses	1,000	
Credit and Collec. Exp.	1,500	
Heat and Light	1,400	9,500
Operating Loss		$3,000

From this statement a person would get the impression that this department is operated at a loss of $3,000. If this represents the usual performance of the department, the question will arise as to whether or not the department should be eliminated. If the department need not be operated for the benefit of customers and if it can be replaced by something better, the answer would be yes. On the other hand, if the revenue produced by the department would be lost to the business, the answer would be no. The margin of $8,100 over the variable direct expenses shows that this department is covering its own variable expenses and is contributing $8,100 to apply on its fixed expenses and on the indirect expenses. This department is covering its variable costs by a substantial margin, and unless fixed direct expenses and indirect expenses to an amount greater than $8,100 can be eliminated it would be desirable to retain it.

Margin Over Direct Expenses. If a department produces a margin over all its own direct expenses, that department is covering its variable costs, the costs of space and equipment used, and part of the indirect expenses. Under such circumstances, such a department should be retained unless it can be replaced with a better one.

Operating Loss. From what has been said in the preceding sections it should now be obvious to the reader that the fact that a department shows an operating loss after the deduction of a portion of the indirect expenses does not mean that such a department is losing money for the enterprise. In fact the contrary has often been true. A department that produces a large volume of revenue and covers a substantial portion of the indirect expenses may be the difference between a profit and loss for the business as whole. Consequently, assuming that the volume cannot be replaced, it is usually safe to say that in a large business a department that produces a margin over its variable expenses is contributing to the profits of the business and should not be eliminated unless the revenue can be replaced with higher margin revenue. This is true because the management of a business with many departments may not be able to reduce the fixed direct and the indirect expenses when a department is eliminated. In a business with relatively few departments, this is not always so; it is desirable to investigate further. In such a case the elimination of a department sometimes enables the fixed and indirect expenses to be reduced substantially. In fact it is usually desirable when considering the elimination of a department for the accountant or executive to determine what revenue will be lost if a department is eliminated and then determine how much the expenses can be reduced if the department is eliminated. If the expenses cannot be reduced to an amount equal to the revenue lost, that department is contributing to the profit of the enterprise.

Profits by Lines. Information on the sales, expenses, and profits by de-

partments such as Men's Clothing, Ladies' Ready-to-Wear, etc., is often insufficient for managerial purposes. It may be necessary to break down the sales and expenses within a department. The sales and expenses for the Ladies' Ready-to-Wear department might be broken down into such lines as coats, dresses, and suits. These might be further subdivided.

The sales of each line can generally be obtained with little difficulty. But again the same problems of expense allocation arise as were encountered in allocating expenses to departments. Some expenses are directly attributable to a particular line, others are partly attributable to a line, and some bear only a very remote relationship to a particular line.

The invoice price of the goods can be obtained, but from that point on the expenses that are directly attributable to a line are usually few. In other words, almost all the other expenses are indirect expenses. These may be allocated to the various lines in the department in the same way that expenses are allocated to departments. Again the reader is warned that such allocations should be made on bases that give reasonably accurate approximations. Otherwise they should not be made, for the profit or loss obtained for a line would mean very little. A satisfactory allocation of indirect expenses to lines is even more difficult to make than the distribution to departments. The expense is often so great and the results so inaccurate that the management prefers to rely upon the gross margin to serve as an index of the success of a line.

Lines that yield a low gross margin, require high inventories, and sell in small units are likely to be unprofitable. However, before they are eliminated, an investigation should be made to determine what expenses could be reduced or eliminated by eliminating these lines. If the saving is less than the revenue from these lines, the lines should not be eliminated unless the volume can be replaced by better margin volume.

Profits by Territories and Customers. Manufacturers and wholesalers have the same problems mentioned in the preceding paragraphs. In addition they are frequently interested in the results obtained in different territories, from different classes of customers, and by methods of delivery.

The problems of expense distribution to territories are exactly the same as those already explained in regard to products and lines. The investigation to determine whether or not a territory is profitable should be made exactly as before. It should be determined what expenses can be eliminated if the territory is eliminated, and this amount should be compared with the revenue produced by the territory.[1] A profitable territory might be abandoned because the effort might be better expended on another territory. Or an unprofitable territory might be retained because of its future prospects.

[1] G. Charter Harrison, *Standard Costs*, The Ronald Press Company, New York, 1930, pp. 129–130.

The same approach may be taken to problems relating to the elimination of customers. The reader may be surprised to learn that business enterprises have eliminated customers, but this has frequently been done by manufacturing and wholesale companies. Investigations often reveal that a very large percentage of the customers provide a very small percentage of the total sales. For example, the Bureau of Foreign and Domestic Commerce found in a study of certain wholesale grocers that 50.42 per cent of the customers provided only 1.93 per cent of the business.[1]

A business enterprise has different possible ways of meeting this problem of unprofitable customers. It might be able to vary its prices with the volume of sales made to different classes of customers, it might be able to reduce its expenses of serving such customers by reducing the services given, and it might be able entirely to eliminate these customers. If the elimination of certain customers is contemplated the amount of revenue obtained from these customers should be determined and the amount the expenses can be reduced determined. If the revenue is greater than the amount the expenses can be reduced these customers are contributing to the profits of the enterprise. However, even if such customers are contributing to the profits the enterprise might do better by concentrating on its better customers. This and many other factors must of course be considered by the management in determining what policy to follow. Here we have simply introduced the accounting approach to the problem.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1 A store had the following departments: men's shoes, hardware, groceries, furniture, and men's clothing. What accounts would this store need in order that the gross margin might be obtained by departments?

2. Is information on the amount of the gross margin of each department of any value to the executives?

3. Is the gross margin of a department indicative of the contribution of that department to the profit of the enterprise?

4. Give some examples of direct costs of a department?

5. Give some examples of indirect costs of a department store?

6. Explain each of the following: margin over variable direct expenses, margin over direct expenses, and department-operating profit. Of what value are these figures?

7. Assuming the decision is to be based on the revenue and expense figures, what approach would you take to determine whether or not a department should be eliminated?

8. The Whirlway Department Store agreed to pay each department manager a bonus equal to 10 per cent of the profits of his department. How would you determine the profits of a particular department?

9. Do you believe depreciation of the building and equipment should be deducted in determining the profits of a department for the purpose of paying a bonus to the department manager?

[1] *Distribution Cost Study No. 14*, Bureau of Foreign and Domestic Commerce, 1932, p.48.

10. The Benton Style Shop sold women's coats, dresses, suits, and hosiery. All of the clerks sold the four lines. To what extent would you classify expenses by lines in order to determine the contribution of each line to the profits?

11. What are the characteristics of unprofitable products?

12. Explain how you would make up a statement of profit and loss for a business with four departments.

13. Might an enterprise such as a wholesale grocery firm or a wholesale hardware firm ever increase its profits by eliminating some of its customers?

LABORATORY PROBLEMS

1. The following is the trial balance of The Workway Store on December 31, 1944:

Cash	$ 25,800	
Accounts Receivable	115,600	
Reserve for Doubtful Accounts		$ 6,000
Notes Receivable	2,500	
Inventory, Dept. A	20,000	
Inventory, Dept. B	15,000	
Inventory, Dept. C	35,000	
Prepaid Insurance	1,300	
Supplies	3,500	
Store Buildings and Fixtures	85,000	
Reserve for Depreciation of Store Buildings and Fixtures		25,000
Vouchers Payable		35,000
Mortgage Payable, Matures Dec. 1955		25,000
Accrued Interest Payable		700
Capital Stock		50,000
Surplus		130,700
Sales, Dept. A		215,000
Sales, Dept. B		185,000
Sales, Dept. C		315,000
Sales Returns and Allowances, Dept. A	1,300	
Sales Returns and Allowances, Dept. B	1,200	
Sales Returns and Allowances, Dept. C	2,100	
Purchases, Dept. A	190,000	
Purchases, Dept. B	145,000	
Purchases, Dept. C	215,000	
Transportation In, Dept. A	15,000	
Transportation In, Dept. B	10,000	
Transportation In, Dept. C	20,000	
Sales Salaries and Commissions, Dept. A	12,000	
Sales Salaries and Commissions, Dept. B	11,200	
Sales Salaries and Commissions, Dept. C	18,700	
Delivery Expenses	7,000	
Advertising Expenses	5,000	
Office Salaries	9,000	
Executive Expenses	15,000	
Heat and Light	1,500	
Sundry Office Expenses	4,000	
Interest Expense	700	
	$987,400	$987,400

(a) Make up the usual 10 column work sheet using the following information for the adjusting entries:

Inventory, Dept. A	$38,000	Inventory, Dept. B	$19,000
Inventory, Dept. C	34,000		
Supplies used:			
Dept. A	1,100		
Dept. B	600		
Dept. C	800		
Insurance expired:			
On inventories:		On store buildings and fixtures	
Dept. A	$115.00	Dept. A	$200.00
Dept. B	95.00	Dept. B	150.00
Dept. C	120.00	Dept. C	250.00

Depreciation of building and fixtures, $1,000
Bad debts, $\frac{1}{4}$ of 1 per cent of sales
Additional interest payable of $50 is accrued

(b) Make up a statement showing the allocation of the indirect expenses to the departments using the following information:

Delivery expenses are allocated 40% to Dept. A, 40% to Dept. B, and 20% to Dept. C.
Office salaries and sundry office expenses are allocated 40% to Dept. A, 30% to Dept. B, and 30% to Dept. C.
The executive expenses are allocated 50% to Dept. A and 25% to each of Depts. B and C.
The heat and light, and the depreciation (a direct expense) are allocated on the basis of the floor space used by the three operating departments, which is as follows:

Dept. A, 30,000 sq. ft.
Dept. B, 20,000 " "
Dept. C, 50,000 " "

The advertising expenses are $2,500 direct, $900 to Dept. A, $900 to Dept. B and $700 to Dept. C. The remainder of the advertising expenses is indirect and is allocated in proportion to the direct advertising expenses.

(c) Make up a statement of profit and loss showing the revenues and expenses by departments and the total.

2. The following are the revenues and expenses of Hiles Bros. for the year 1944:

Sales:	
Radios	$195,000
Refrigerators	285,000
Stoves	104,000
Electric Appliances	85,000

	Purchases	*Inventory, Jan. 1, 1944*	*Inventory, Dec. 31, 1944*
Radios	$138,000	$5,900	$6,000
Refrigerators	198,000	7,900	9,000
Stoves	72,000	6,300	7,000
Electric Appliances	62,000	4,600	5,000

Sales salaries and commissions:		Sales supplies used:	
Radios	$20,000	Radios	$ 500
Refrigerators	26,000	Refrigerators	600
Stoves	11,000	Stoves	700
Electric Appliances	6,000	Electric Appliances	1,200

Delivery expenses, $4,200; 20% to radios, 40% to Refrigerators, 30% to Stoves, and 10% to Electric Appliances.

Advertising expenses:
Direct

Radios	$2,000
Refrigerators	4,000
Stoves	1,000
Electric Appliances	1,000

Indirect—$4,800, allocated in proportion to the direct.
Bad debts, $2,600.

The following expenses are distributed 2/7 to Radios, 3/7 to Refrigerators, 1/7 to Stoves, and 1/7 to Electric Appliances:

Office Salaries	$14,000
Office Supplies Used	2,100
Executive Salaries	14,000
Sundry Executive and Office Expenses	3,500

Payroll taxes:

Radios	$500
Refrigerators	800
Stoves	300
Electric Appliances	200

The payroll taxes on executive salaries, office salaries, advertising salaries, and delivery salaries have been charged to such accounts as Office Salaries, Advertising, etc., so the student may disregard these.

The following expenses are distributed in proportion to the floor space used by the operating departments:

Depreciation of Building	$3,600
Depreciation of Sales Equipment	2,000
Taxes and Insurance on Buildings	3,000
Heat and Light	2,400
Repairs to Building and Equipment	2,000

Floor space:

Radios	1,500 sq. ft.	Stoves	2,000 sq. ft.
Refrigerators	2,500 " "	Electrical Appliances	1,000 " "

From the preceding data you are required to make up a statement of profit and loss for the year 1944 showing the operating profits by departments and the total.

3. The following is the profit and loss statement of the Radio Department of The Williams Furniture Co. for the year 1939:

Sales		$300,000
Cost of Goods Sold		240,000
Gross Margin		60,000
Other Variable Direct Expenses		
Sales Salaries	$18,200	
Sales Supplies Used	2,000	
Advertising	5,200	
Sundry	2,500	27,900
Margin over Variable Direct Exp.		32,100
Fixed Direct Expenses		
Depreciation of Build'g	$ 1,500	
Depreciation of Fixtures	300	
Insurance and Taxes	900	
Heat and Light	1,800	4,500
Margin over Direct Expenses		27,600

Indirect Expenses .		
Advertising	$ 4,500	
Office Expenses	4,800	
Delivery Expenses	3,100	
General Expenses	3,600	16,000
Operating Profit		$ 11,600

The manager of The Williams Furniture Co. believed that the sales of the Radio Department could be doubled in 1940 if the additional direct advertising expenses were doubled in proportion to sales and the salesmen were paid a commission of 10 per cent of the additional business. No new salesmen or employees would be needed, and other expenses would increase about $3,000. Assuming that the same mark-up would be obtained in 1940 as in 1939 what would be the approximate profit of this department in 1940 if the additional volume were obtained? What was the increase in the percentage of direct advertising expenses to sales?

4. The following is the profit and loss statement of the hosiery department of a store for the year 1944:

Sales		$40,000
Cost of Goods Sold		30,000
Gross Margin		10,000
Other Variable Direct Expenses		
Salaries	$4,000	
Supplies	400	
Advertising	1,500	
Sundries	800	6,700
Margin over Variable Direct Expenses		3,300
Fixed Direct Expenses		
Depreciation	500	
Insurance and Taxes	200	700
Margin over Direct Expenses		2,600
Indirect Expenses		
Manager's Salary	2,400	
Office Expenses	1,200	
Delivery Expenses	1,000	
Heat and Light	900	
Sundries	500	6,000
Operating Loss		($3,400)

Basing your answer upon the above figures only, what effect, if any, would the elimination of the department have upon the profit of the company?

5. The Central States Manufacturing Co. sold merchandise in three different territories, the southern, the eastern, and the western, all adjacent to its plant in Chicago. The sales and expenses of these territories were:

	Southern	*Eastern*	*Western*
Sales	$438,400	$862,500	$226,300
Cost of Goods Sold	340,000	775,000	180,000
Sales Salaries	13,000	19,500	13,000
Sales Traveling Expenses	12,400	16,200	9,300
Advertising	12,500	17,000	11,300
Sales Commissions	4,384	8,625	2,263
Sales Supplies Used	2,206	3,810	1,107
Sundry Selling Expenses	3,600	4,800	1,600
Bad Debts	1,100	1,800	875
Sales Discounts	2,945	5,960	985

In addition there were the following head office expenses:

Sales Office Expenses (includes salaries and sales office expenses)	$15,300
Executive Expenses	18,800
Accounting and Statistics	12,700
Depreciation of Buildings and Equipment	2,800
Insurance and Taxes (property)	1,950
Shipping Expenses	9,800

(a) Make up a statement of profit and loss which will show the sales, expenses, operating profit by territories, and total operating profit, allocating the indirect expenses to the different territories in proportion to sales.

(b) If the statement for any territory shows a loss explain whether or not you think that territory should be eliminated.

6. Do problem 9, Chapter XII.

7. Do problem 11, Chapter XII.

8. Do Practice Set 2, The Suburban Department Store problem.

CHAPTER XXIV. MANUFACTURING ACCOUNTING

Manufacturing Accounting. Manufacturing firms produce goods and services of a different form from those which they acquire. They convert iron ore into steel, timber into lumber, the products of farms and waters into food, clothing, and other products. These products which enter into the manufacture of a different product are called *raw materials*. The products of the enterprise are called *finished goods*. Thus the finished goods of one plant may be the raw materials of another; the steel produced by blast furnaces is the raw material of many other industries.

Manufacturing accounting is one of the most interesting branches of accounting; it is never dull. It is always presenting new situations and new opportunities to the accountant. It involves accounting for the costs that are common to most enterprises, and in addition accounting for the costs of manufacturing. Before discussing the costs of manufacturing, let us consider what is done in manufacturing a product.

When a product is manufactured, materials are needed. Labor must be applied to the materials to convert them into the finished products of the enterprise. Machines and tools are used by labor. Foremen and other supervisors are needed to instruct labor and coordinate its efforts. Buildings are needed to house the workers and the machines. The buildings must be heated, lighted, and kept in repair. Power is needed to drive the machinery. Taxes must be paid and insurance carried on materials, equipment, and buildings. In addition workmen's compensation taxes and other payroll taxes must be paid. This list could be expanded considerably, but the foregoing examples are sufficient to indicate the additional accounting that is necessary.

Additional costs must be accounted for in manufacturing enterprises. Among these are the costs of the materials used, the labor applied to the materials, the cost of supervision, and the costs resulting from the use of buildings and equipment, such as depreciation, insurance, taxes, power, and repairs.

Manufacturing accounting is ordinarily further complicated by the fact that not all the materials on which the manufacturing operations have been started during a period may have been finished at the end of that period. In other words there may be and, usually is, an inventory of *goods in process*, or *work in process*, at the end of the period. If the production

period is short, there may be no such inventory, or a very small one, but if the production period is long, as in the manufacture of whiskey or complicated machinery, the inventory may be very large.

In manufacturing we usually have inventory accounts for:

Raw materials
Goods in process
Finished goods.

Direct and Indirect Costs. Manufacturing costs are said to be of two types: (1) Direct costs, and (2) Indirect costs.

Direct costs are those costs for which some particular cost unit alone is responsible; they are costs directly connected with that unit and are not costs of any other unit. The unit may be a product, a process, a department, an operation, or some other unit. The most easily measured direct costs are ordinarily the costs of the raw materials used and the labor that is applied directly to these raw materials to convert them into finished goods. Such labor is called direct labor. There may be other direct costs, but these will not be discussed now.

The indirect costs are costs that apply to more than one cost unit. Even when a plant manufactures only one product, certain costs are not as directly connected with the product as are the raw materials and the direct labor. This is true of the salaries of supervisors, the depreciation, insurance, and taxes. If another product were manufactured in the same plant, these costs would apply in part to that product.

For the present, it is sufficient to list a few examples of direct and indirect costs:

Direct costs: Raw materials used, direct labor.

Indirect costs: Depreciation, taxes, insurance, repairs, supplies used, heat, light, power, taxes, and the like.[1]

The accounts used to provide the needed records will be discussed in the following pages, but first the procedure to be followed will be briefly discussed.

The methods of recording materials, direct labor, and the indirect costs are the same as those with which the reader is already familiar. The following accounts may be used to record the raw materials: Inventory of Raw Materials, Raw Materials Purchases, Transportation of Raw Materials, and Raw Materials Purchase Returns and Allowances. Some companies need still other accounts.

The labor applied directly to the product is recorded in an account called Direct Labor.

The indirect costs are entered in their respective accounts such as

[1] Although depreciation on store buildings is generally considered a direct cost as explained on page 409, depreciation is usually considered an indirect cost by manufacturing enterprises.

Factory Insurance, or Factory Taxes. Some indirect costs, such as repairs and power, are entered during the period. Others, like depreciation, are not entered until the adjusting entries are made at the end of the period.

The accounts which provide the costs of manufacturing are all closed to one account called Manufacturing, Manufacturing Cost, or Cost of Manufacturing. In this account are summarized the costs of all the goods which were being manufactured during the period, its balance being the cost of the goods finished and the goods still in process at the end of the period. This Manufacturing account, which is a basic account in manufacturing accounting, will be discussed in more detail later in this chapter.

As a final step, the cost of the goods manufactured during the period and the inventories of finished goods are used to obtain the cost of the goods sold.

Types of Manufacturing Accounting. Manufacturing accounting is of two basic types: (1) Cost accounting, and (2) Noncost accounting.

Cost accounting is more complicated than ordinary manufacturing accounting. A cost accounting system provides the costs of specific lots of a product, of operations, or of processes. Continuous records are kept of many of the costs such as the cost of raw materials used, goods in process, and finished goods. Cost accounting, which is, if properly used, a very useful tool of management, is discussed in Chapter XXVI.

The remainder of this chapter is devoted to noncost manufacturing accounting, which involves:

1. Accounting for the materials acquired and used, for the direct labor used, and for the various indirect manufacturing costs.
2. The division of the costs between the goods finished during the period and the goods still in process at the end of the period.
3. The determination of the cost of the goods sold.

Materials Used. The cost of any material that enters directly into a product is a cost of that product. In the manufacture of a table, the wood, varnish, glue, and nails used are all costs of the table. The materials that make up the finished product are usually called *raw materials.* All the aforementioned materials would be raw materials used in the manufacture of the table.

Other materials called *supplies* may be used. These are the materials that do not enter into the finished product, such as grease and oil for machines, cleaning fluids, and sandpaper. The cost of supplies is ordinarily considered an indirect manufacturing cost.

The cost of the raw materials used in a factory may be determined by the inventory method, or a record may be kept of the materials as they are used. The second method will be discussed in Chapter XXVI on Cost Accounting. When the cost of the raw materials used is determined by the

inventory method, the computations are very similar to those made to determine the cost of goods sold, that is, the cost of raw materials used is obtained by deducting the cost of the final inventory of materials from the cost of the materials available for use. The cost of the raw materials available for use is determined by adding together the cost of the initial inventory, the purchases less the purchase returns and allowances, the transportation in, and any other costs of acquiring the raw materials. From this cost, the cost of the final inventory is deducted to obtain the costs of the raw materials used. The following is such a computation:

Inventory of Raw Materials, Jan. 1		$7,645.10
Raw Materials Purchased	$65,892.25	
Less: Raw Material Returns and Allowances	842.30	65,049.95
Transportation of Raw Materials		5,746.15
Raw Materials Available for Use		$78,441.20
Less: Inventory Raw Materials, Jan. 31		8,645.40
Cost of Raw Materials Used		$69,795.80

When more than one raw material is used, one account may be satisfactory, or an account may be opened for each of the different raw materials.

The raw materials used during a period will have been converted into goods that have been sold, goods finished but unsold, and goods still in the process of manufacture at the end of the period, or some may have been wasted or spoiled.

Direct Labor Costs. In noncost manufacturing accounting the direct labor is considered to be that which operates machines and in other ways works directly on the product. The remainder of the labor is called indirect labor. Examples of indirect labor are the labor of supervisors, janitors, storekeepers, clerks, and other factory employees who do not work directly on the product and whose services would apply in part to other products if any were produced.

Most of the direct labor cost is recorded in the books of original entry during the period. If the general journal or the voucher register contains a column for direct labor, the payments made during the month would be entered as one amount when the total of this column is posted.

The Direct Labor account might contain entries for the payments made during the period, the adjusting entry at the end of the period, and readjusting credit entry made on the first day of the period. The following account illustrates such entries:

Direct Labor

1942		*1942*	
Jan. 31	46,980.50	Jan. 1	1,000.00
31	2,512.60		

The debit for $46,980.50 is for the total of the payments made during the month. The debit for $2,512.60 is from the adjusting journal entry, which was:

Jan.	31	Direct Labor Accrued Direct Labor To record unpaid direct labor from Jan. 28 to 31.		2,512.60	2,512.60

The credit of $1,000 was made on January 1, the first day of the period when the readjusting entry was made to reverse the adjusting entry of the previous period.

Indirect Manufacturing Costs, Manufacturing Burden, Manufacturing Overhead. The terms *indirect manufacturing costs, manufacturing burden,* and *manufacturing overhead* are used to designate the indirect manufacturing costs. Frequently a more inaccurate title, manufacturing expenses, is used. Since the costs of material and labor that apply to the goods sold are actually manufacturing expenses, it is better to use some title other than Manufacturing Expenses to describe indirect costs. Ordinarily the following will be recorded as indirect costs:

Depreciation of the factory building
Depreciation of machinery and equipment
Insurance on plant and equipment
Taxes on plant and equipment
Insurance on raw materials and goods in process
Taxes on raw materials and on goods in process
Indirect labor: Foremen and supervisors
Indirect labor: Planning
Indirect labor: Engineering
Indirect labor: Transportation
Repairs to factory buildings
Factory supplies used
Factory heat, light, and power.

Accounts are opened for each important indirect cost, but frequently one account, Indirect Labor, is used for all the indirect labor. The indirect costs are recorded in the usual way with credits made to Cash, Accounts Payable, Vouchers Payable, Accrued Payroll, etc. As already stated, some of these costs may not be recorded until the adjusting entries are made. The depreciation, taxes, insurance, and supplies used may not be completely recorded until that time.

If, during the accounting period, factory taxes of $1,200 were paid, entries would be made in the voucher register and cash disbursements book to obtain a debit to Factory Taxes and a credit to Cash. If on December 31, factory taxes of $300 were accrued but unpaid, an adjusting

entry would be made to debit Factory Taxes $300 and to credit Accrued Factory Taxes, $300.

Manufacturing Costs Not Necessarily Expenses. It has been explained that the manufacturing costs are made up of the cost of the raw materials used, the direct labor, and the indirect manufacturing costs. These costs are recorded in much the same way as costs are in any enterprise. But in manufacturing, they are not necessarily considered expenses.

A considerable portion of the costs of goods and services used during a period of time may not be costs of the revenue of that period but of goods still in the process of manufacture at the end of the period and of goods finished during that period but unsold at the end of the period. To be more specific, part of the cost of materials used, the cost of the services of persons, the depreciation, the insurance and taxes, and other such costs will ordinarily apply to goods still in the process of manufacture at the end of the period, and also to finished product then on hand. That is, a considerable portion of these costs will ordinarily apply to revenues of future accounting periods and consequently will not be expenses.

This requires first the recording of the cost of the period, and second the allocation of this cost to the current revenue and to the inventories still on hand. As a step in this process the Manufacturing account is used as an account in which the costs for the period are first summarized before being allocated.

The Manufacturing Account. Before we discuss the Manufacturing account let us consider the Goods in Process account. Most manufacturing enterprises will use an account of this name. This is an inventory account of which the following is an example:

Goods in Process

1942		*1942*	
Jan. 1	5,695.60	Jan. 31	5,695.60

The balance of this account was $5,695.60 on January 1, and at the end of the accounting period, on January 31, this balance would be closed to the Manufacturing account, where it would be entered as a debit.

During January, raw materials would be put into process, and direct labor costs and indirect manufacturing costs would be incurred; thus the total cost of all the goods in process of manufacture during January is made up of the following:

The cost of the initial inventory of goods in process
The cost of the raw materials used
The direct labor cost
The indirect manufacturing costs.

All of these costs may be summarized in the Manufacturing account. To the Manufacturing account are closed the initial inventory of goods in process, the accounts that will give the cost of the raw materials used, the balance of the Direct Labor account, and the balances of the accounts for the indirect manufacturing costs. Such an account is now illustrated.

Manufacturing

1942			*1942*		
Jan. 31	Goods in process	5,695.60	Jan. 31	Raw materials returns and allowances	842.30
31	Raw materials inventory	7,645.10	31	Raw materials inventory Jan. 31	8,645.40
31	Raw materials purchases	65,892.25			
31	Transportation of raw materials	5,746.15			
31	Direct labor	48,493.10			
31	Sundry indirect labor	8,417.20			
31	Supervision	6,520.25			
31	Depreciation of plant	2,250.75			
31	Depreciation of equipment	1,120.10			
31	Heat, light, power	2,896.70			
31	Factory supplies used	2,740.20			
31	Factory insurance and taxes	1,105.10			
31	Factory repairs	1,000.00			

The initial inventory of goods in process is closed to the above account by a debit to Manufacturing and a credit to the Goods in Process account.

The Raw Materials Inventory, Raw Materials Purchases, and Transportation of Raw Materials accounts are closed to the Manufacturing account by debits to this account and credits to the respective accounts. The balance of the Raw Materials Returns and Allowances account is closed to the Manufacturing account by a debit to Raw Materials Returns and Allowances and a credit to the Manufacturing account. The final inventory of raw materials is recorded by a debit to Raw Materials Inventory and a credit to the Manufacturing account.

The balance of the Direct Labor account is closed by a debit to the Manufacturing account and a credit to the Direct Labor account.

The different accounts for the indirect manufacturing costs are closed by credits to these accounts and by a debit or debits to the Manufacturing account.

The balance of the Manufacturing account at this stage represents the total cost of all the goods that were in process of manufacture during the period. Some of these have been finished, and some are still in process of manufacture, assuming that none have been spoiled. *Thus, the balance of the Manufacturing account now represents the cost of the goods finished or manufactured during the period together with the cost of the goods still in process. If either of these two costs is known, the other can be determined.*

The balance of the Manufacturing account on page 427 is $150,034.80. If the cost of the goods in process at the end of the period is known to be $6,475.20, the balance of $143,559.60 is the cost of the goods finished during the period.

An entry is then made to record the final inventory of goods in process by a debit to Goods in Process and a credit to Manufacturing, as follows:

Jan. 31	Goods in Process	6,475.20	
	Manufacturing		6,475.20
	To record final inventory of goods in process		

The balance of the Manufacturing account now represents the cost of the goods finished or manufactured during the period. A second entry is made to close this balance to the Cost of Goods Sold account or direct to the Profit and Loss Summary account. This amount, however, is not the cost of the goods sold but is simply the cost of the goods manufactured during the period. (The inventories of finished goods at both the beginning and end of the period are closed to the Cost of Goods Sold account, or to the Profit and Loss Summary account, and these inventories together with the cost of goods manufactured give the cost of the goods sold.) This second entry is made as follows when no Cost of Goods Sold account is used.

Jan. 31	Profit and Loss Summary	143,559.60	
	Manufacturing		143,559.60
	To record the cost of the goods finished during January		

The Manufacturing account has now been closed by these two additional credit entries, as seen in the following account.

Manufacturing

1942			*1942*		
Jan. 31	Goods in process Jan. 1	5,695.60	Jan. 31	Raw materials returns and allowances	842.30
31	Raw materials inventory	7,645.10	31	Raw materials inventory, Dec. 31	8,645.40
31	Raw materials purchases	65,892.25	31	To Goods in Process	6,475.20
31	Transportation of raw material	5,746.15	31	To Profit and Loss	143,559.60
31	Direct labor	48,493.10			
31	Sundry indirect labor	8,417.20			
31	Supervision	6,520.25			
31	Depreciation of plant	2,250.75			
31	Depreciation of equipment	1,120.10			
31	Heat, light, power	2,896.70			
31	Factory supplies used	2,740.20			
31	Factory insurance and taxes	1,105.10			
31	Factory repairs	1,000.00			
		159,522.50			159,522.50

When the entry was made to debit Profit and Loss for the cost of goods manufactured, it was assumed that no goods were spoiled during the period. *If any goods were spoiled, their cost, or estimated cost, would ordinarily be credited to the Manufacturing account and debited to a Spoiled Goods account.* This entry would usually be made when the goods were spoiled, so that the balance of the Manufacturing account, after the cost of the final inventory of goods in process is recorded, is still the cost of the goods manufactured.

The ledger accounts on page 431 illustrate the relationship of the various accounts to the Manufacturing account.

Cost of Goods Manufactured. A statement showing the cost of the goods manufactured during the period may be made up from the data included in the Manufacturing account or from a work sheet which provides these data. This statement is called a *manufacturing cost statement*, or a *statement of manufacturing costs*. It shows the cost of the goods in process inventory at the beginning of the period, the cost of the raw materials used, the direct labor, and the indirect manufacturing costs. From the total of these items the cost of the final inventory of goods in process is deducted to obtain the cost of the goods manufactured. The following is such a statement made up in abbreviated form from the manufacturing accounts on page 431:

The Emerson Products Co.

Statement of Cost of Goods Manufactured
January 1 to January 31, 1942

Goods in Process, Jan. 1, 1942	$ 5,695.60
Raw Materials Used	69,795.80
Direct Labor	48,493.10
	$123,984.50
Indirect Manufacturing Costs	26,050.30
	$150,034.80
Deduct:	
Goods in Process, Jan. 31, 1942	6,475.20
Cost of Goods Manufactured	$143,559.60

The cost of goods sold is computed by adding to the initial inventory of finished goods the cost of the goods manufactured, and deducting from this total the cost of the final inventory of finished goods. A statement so made up is called a statement of cost of goods manufactured and sold.

More detail is ordinarily provided on the statement of the cost of goods manufactured than on the one illustrated above. The following statement, based on the same data, is more typical.

The Emerson Products Co.

Statement of Cost of Goods Manufactured
January 1 to January 31, 1942

Goods in Process, Jan. 1			$ 5,695.60
Raw Materials Used:			
Inventory, Jan. 1, 1942		$ 7,645.10	
Purchases	$65,892.25		
Less: Purchase Returns and Allowances	842.30	65,049.95	
Transportation of Raw Materials		5,746.15	
		$78,441.20	
Less: Inventory, Jan. 31, 1942		8,645.40	69,795.80
Direct Labor			48,493.10
Indirect Manufacturing Costs:			
Sundry Indirect Labor		$ 8,417.20	
Supervision		6,520.25	
Depreciation of Plant		2,250.75	
Depreciation of Equipment		1,120.10	
Heat, Light, and Power		2,896.70	
Factory Supplies Used		2,740.20	
Factory Insurance and Taxes		1,105.10	
Factory Repairs		1,000.00	26,050.30
Total Manufacturing Costs			$150,034.80
Deduct: Goods in Process, Jan. 31, 1942			6,475.20
Cost of Goods Manufactured			$143,559.60

Cost of Goods Sold. The cost of the goods manufactured during the period was credited to the Manufacturing account and debited to the Profit and Loss account. This amount does not represent the cost of the goods sold unless the inventories of finished goods were the same at the beginning and end of the period. To obtain the cost of goods sold the inventory of finished goods on hand at the beginning of the period should be added to the cost of the goods finished during the period to obtain the cost of the goods available for sale. From this cost, the cost of the final inventory of finished goods is deducted to obtain the cost of the goods sold, thus:

Finished goods, inventory, Jan. 1, 1942	$ 16,896.20
Cost of goods manufactured	143,559.60
Finished goods available for sale	$160,455.80
Finished goods inventory, Jan. 31, 1942	14,242.10
Cost of Goods Sold	$146,213.70

The ledger will contain an account called Finished Goods Inventory, or Inventory of Finished Goods. At the end of the accounting period this account would contain the cost of the opening inventory of finished goods, which would be closed to the Profit and Loss Summary account. The final inventory of finished goods would be recorded by a debit to Finished Goods Inventory and a credit to the Profit and Loss Summary. After

Goods in Process

1942		1942	
Jan. 1	5,695.60	Jan. 31	5,695.60
Feb. 1	6,475.20		

Raw Materials Inventory

1942		1942	
Jan. 1	7,645.10	Jan. 31	7,645.10
Feb. 1	8,645.40		

Raw Materials Purchases

1942		1942	
Jan. 31	65,892.25	Jan. 31	65,892.25

Raw Materials Returns and Allowances

1942		1942	
Jan. 31	842.30	Jan. 31	842.30

Transporation of Raw Materials

1942		1942	
Jan. 31	5,746.15	Jan. 31	5,746.15

Direct Labor

1942		1942	
Jan. 31	46,980.50	Jan. 31	48,493.10
31	1,512.60		
	48,493.10		48,493.10

Factory Ins. and Taxes

1942		1942	
Jan. 31	1,105.10	Jan. 31	1,105.10

Sundry Indirect Labor

1942		1942	
Jan. 31	8,417.20	Jan. 31	8,417.20

Supervision

1942		1942	
Jan. 31	6,520.25	Jan. 31	6,520.25

Factory Supplies Used

1942		1942	
Jan. 31	2,740.20	Jan. 31	2,740.20

Factory Repairs

1942		1942	
Jan. 31	1,000.00	Jan. 31	1,000.00

Heat, Light, Power

1942		1942	
Jan. 31	2,896.70	Jan. 31	2,896.70

Depreciation of Plant

1942		1942	
Jan. 31	2,250.75	Jan. 31	2,250.75

Depreciation of Equipment

1942		1942	
Jan. 31	1,120.10	Jan. 31	1,120.10

Manufacturing

1942		1942	
Jan. 31 . . .	$ 5,695.60	Jan. 31 . . .	$ 8,645.40
31 . . .	7,645.10	31 . . .	842.30
31 . . .	65,892.25	31 . . .	6,475.20
31 . . .	5,746.15	31 . . .	143,559.60
31 . . .	48,493.10		
31 . . .	8,417.20		
31 . . .	6,520.25		
31 . . .	2,740.20		
31 . . .	1,000.00		
31 . . .	2,896.70		
31 . . .	2,250.75		
31 . . .	1,120.10		
31 . . .	1,105.10		
	$159,522.50		$159,522.50

closing, the Finished Goods Inventory account would appear as follows:

Finished Goods Inventory

1942			*1942*		
Jan. 1	. . . .	16,896.20	Jan. 31	. . . .	16,896.20
Feb. 1	. . . .	14,242.10			

The Profit and Loss Summary account, containing entries made from data used in the preceding example, would contain the following entries which would provide the cost of the goods sold:

Profit and Loss Summary

1942			*1942*		
Jan. 31	Cost of goods manufactured . . .	143,559.60	Jan. 31	Finished goods inventory	14,242.10
31	Finished goods inventory	16,896.20			

The Cost of the Goods in Process and the Cost of Finished Goods. The balance of the Manufacturing account before it is credited with the final inventory of goods in process and the cost of the goods manufactured during the period represents the cost of the goods finished during the period together with the cost of the goods still in process. The balance, $150,034.80, of the Manufacturing account on page 427 is the accumulated cost of all the goods that have entered into the process of manufacture during the period, of which some have been finished and some still will be in the process of manufacture at the close of the period.

It is often difficult to determine what portion of this total cost applies to the goods still in process and what part applies to the goods finished during the period. A manufacturer of men's shirts would be able to take an inventory of the shirts in process and in this way determine the number of shirts in process, and since he would undoubtedly know the amount of material required for each shirt, he could readily determine the cost of the materials in process. From the degree of completion of the shirts, he could make a reasonably accurate estimate of the direct labor that applied to these shirts. So far the problem has been comparatively simple, but now the more difficult problem arises, that is, what amount of the total of the indirect manufacturing costs applies to the goods in process and what portion applies to the goods finished during the period? These indirect costs might be divided in proportion to the cost of the direct labor used, in proportion to the number of direct labor hours used, or in proportion to the machine hours used on the goods in process as compared with the finished goods. Or some combination of these methods might be used. A

discussion of these methods is deferred to Chapter XXVI on Cost Accounting. A more simple method will now be illustrated.

The total raw materials used during a period amounted to \$24,000, the direct labor to \$20,000, and the indirect manufacturing costs to \$16,000. During the period, 4,200 units were completed, and 600 units were in process one-half completed at the end of the period. If all the raw materials were put into process at the beginning of the process, the cost of the raw materials used would be \$5 per unit computed as follows:

$$\$24,000 \div 4800 = \$5$$

The goods in process were one-half completed; so we may assume that the 600 units in process were the equivalent of 300 units completed. In other words, the enterprise had completed the equivalent of 4,500 units. The direct labor of \$20,000 and the indirect manufacturing costs of \$16,000, a total of \$36,000, divided by 4,500 results in a cost of \$8 per completed unit. Thus, each unit of goods in process is made up of the cost of the raw materials, \$5, plus one-half of \$8 or \$4 for direct labor and indirect manufacturing costs, a total of \$9 per unit for goods in process. Each unit of finished goods would be considered to cost \$5 plus \$8, or \$13.

Summary of Manufacturing and Cost of Goods Sold Entries. Two summaries of the entries discussed in the preceding sections are now given. The first is in tabulation form, and the second, on page 434, is in account form with explanations in each account of the entries made therein.

Summary of Manufacturing and Cost of Goods Sold Entries

Account Name, or Type of Account	*Disposition of Balance of Account*
Goods in Process	Initial inventory closed and entered on the debit side of the Manufacturing account. Final inventory is debited to Goods in Process and credited to Manufacturing
Raw Materials Accounts	The raw materials accounts are closed to Manufacturing in order to provide the cost of the raw materials used
Direct Labor	Closed to Manufacturing
Spoiled Goods	Credited to Manufacturing and debited to a Spoiled Goods account
Indirect Manufacturing Cost Accounts	The balances of these accounts are closed to Manufacturing
Manufacturing	After the preceding entries have been made, the balance of the Manufacturing account is the total of the cost of the goods in process at the end of the period together with the cost of the goods manufactured during the period. An entry is made to credit the Manufacturing account and debit Goods in Process for the cost of the goods in process inventory. Another entry is made to credit Manufacturing and debit Profit and Loss with the cost of the finished goods manufactured during the period
Finished Goods	Initial inventory closed and debited to Profit and Loss. Final inventory is debited to Finished Goods and credited to Profit and Loss

Summary of Manufacturing and Cost of Goods Sold Entries

Raw Materials Inventory

Initial inventory	Initial inventory closed to Manufacturing
Final inventory	

Raw Materials Purchases

Purchases	Balance closed to Manufacturing

Indirect Labor

Indirect labor	Balance closed to Manufacturing

Factory Repairs

Repairs	Balance closed to Manufacturing

Factory Insurance

Insurance	Balance closed to Manufacturing

Depreciation of Factory Building

Depreciation	Balance closed to Manufacturing

Transportation of Raw Materials

Freight in	Balance closed to Manufacturing

Raw Materials Returns and Allowances

Balance closed to Manufacturing	Returns and allowances

Direct Labor

Direct labor	Balance closed to Manufacturing

Factory Heat, Light and Power

Heat, light, and power	Balance closed to Manufacturing

Factory Supplies Used

Supplies used	Balance closed to Manufacturing

Factory Taxes

Taxes	Balance closed to Manufacturing

Depreciation of Machinery and Equipment

Depreciation	Balance closed to Manufacturing

Manufacturing

Initial inventory of goods in process	Raw materials returns and allowances
Initial inventory of raw materials	Final inventory of raw materials
Raw materials purchases	Final inventory of goods in process
Transportation of raw materials	Cost of goods manufactured
Direct labor	
Indirect labor	
Factory repairs	
Factory insurance	
Depreciation of buildings	
Heat, light, and power	
Supplies used	
Taxes	
Depreciation of machinery, etc.	

Goods in Process

Initial inventory	Initial inventory closed to Manufacturing
Final inventory of goods in process	

Finished Goods

Initial inventory of finished goods	Initial inventory closed to Profit and Loss
Final inventory of finished goods	

Profit and Loss Summary

Initial inventory of finished goods	Final inventory of finished goods
Cost of goods manufactured	

The raw materials accounts, the Direct Labor account, and the indirect manufacturing costs accounts are closed to Manufacturing. The balance of the Manufacturing account now represents the cost of the goods in process and the cost of the goods manufactured during the period. An entry is made to close the cost of the final inventory of goods in process to Goods in Process. Another entry is made to close the cost of the goods manufactured during the period to the Profit and Loss account.

The Unit Cost Statement. A Unit Cost Statement is usually made up by a manufacturing enterprise that produces one product, or several products so similar that a common measuring stick is of some value. When only one product is produced the manufacturing costs are divided by the number of units produced to obtain the cost per unit. Sometimes the unit costs are computed for each pound or ton of a product produced, or, in lumber production, for each thousand board feet.

The only sound method of making up a unit cost statement is to break up the goods in process inventories into the raw materials, direct labor, and the amount of the indirect manufacturing costs that make up these inventories.

The goods in process inventories of the Emerson Products Company were made up as follows:

	January 1, 1942	*January 31, 1942*
Raw Materials	$2,645.30	$2,985.20
Direct Labor	1,716.20	1,936.40
Indirect Manufacturing Costs	1,334.10	1,553.60
Inventory of Goods in Process	$5,695.60	$6,475.20

The cost of the raw materials in the goods manufactured during January is obtained by deducting the cost of the raw materials in process at the end of the period from the total of the raw materials in process at the beginning of the period and the raw materials placed in process during the period. The cost of the raw materials in the goods manufactured by the Emerson Products Co. during January 1942 is obtained as follows:

Raw Materials in Process, Jan. 1	$ 2,645.30
Raw Materials Placed in Process	69,795.80
	72,441.10
Less:	
Raw Materials in Process, Jan. 31	2,985.20
Cost of Raw Materials in Goods Manufactured	$69,455.90

A similar computation is made for the direct labor and the indirect manufacturing costs that apply to the goods finished during the period. For the Emerson Products Co. this direct labor is $48,272.90 and the indirect manufacturing costs amount to $25,830.80. The unit cost statement for the Emerson Products Co. is made up as follows:

Emerson Products Co.
Unit Cost Statement
Month of January, 1942

	Amount	*Unit Cost*
Raw Materials	$69,455.90	$6.946
Direct Labor	48,272.90	4.827
Indirect Manufacturing Costs	25,830.80	2.583
Cost of Goods Manufactured	$143,559.60	$14.356
Units Produced	10,000	

The Emerson Products Co. manufactured 10,000 units of its product during January. The total cost of these units was $143,559.60 or $14.356 per unit. The cost of the raw materials used per unit was $6.946, the direct labor cost $4.827, and the indirect manufacturing cost $2.583.

The unit cost statement is used for two chief purposes; as a guide for setting prices, and to compare the costs of one period with those of another. Ordinarily the unit costs are a very poor basis for pricing; the reasons will be explained in more detail in Chapters XXVI and XXVII. A comparative unit cost statement may be made up to show the changes in costs. The following is a comparative unit cost statement for the Emerson Products Co. for the months of January 1942, and December 1941:

Emerson Products Co.

Comparative Statement of Manufacturing Costs
January 1942 and December 1941

	Jan. 1942	*Dec. 1941*	*Change*
Raw Materials	6.946	6.250	+.696
Direct Labor	4.827	4.648	+.179
Indirect Manufacturing Costs	2.583	2.093	+.490
	14.356	12.941	1.365

From this statement, approximate changes in unit costs can be determined. The fact that the direct labor costs per unit have increased does not necessarily mean that the efficiency of labor had changed; there may have been a change in operating capacity or wages. These changes simply draw attention to costs that might need investigating.

The Statement of Profit and Loss of a Manufacturing Enterprise. The only change in the statement of profit and loss for a manufacturing enterprise from that of a mercantile company is in the cost of goods sold section. If the January 1942 sales of the Emerson Products Co. were $195,642.10, the first part of the statement of profit and loss could be made up as follows:

Sales		$195,642.10
Cost of Goods Sold:		
Finished Goods, Jan. 1	$16,896.20	
Cost of Goods Manufactured (Schedule 1)	143,559.60	
	$160,455.80	
Finished Goods, Dec. 31	14,242.10	146,213.70
Gross Margin		$ 49,428.40

From this gross margin, the selling, general and administrative, and other expenses would be deducted to obtain the operating profit.

A statement of cost of goods manufactured would be captioned Schedule 1 and attached to this statement. The following are illustrations

of the statement of profit and loss and the statement of cost of goods manufactured of the Williams Manufacturing Co.

Williams Manufacturing Co.

Statement of Profit and Loss
Year ended December 31, 1944

Sales			$307,204.00
Less: Sales Returns and Allowances			3,253.00
Net Sales			$303,951.00
Cost of Goods Sold:			
Inventory, Finished Goods, Jan. 1	$ 18,275.00		
Cost of Goods Manufactured (Schedule 1)	240,827.80		
	$259,102.80		
Less: Inventory, Finished Goods, Dec. 31	14,212.00		244,890.80
Gross Margin			$ 59,060.20
Selling Expenses:			
Salesmen's Salaries	$ 12,450.00		
Advertising	12,168.00		
Salesmen's Traveling Expenses	10,940.00		
Taxes	191.60		
Insurance	120.00		
Sundry Selling Expenses	1,133.00	$37,002.60	
General and Administrative Expenses:			
Officers' Salaries	$ 6,500.00		
Office Salaries	4,850.00		
Stationery and Printing	850.00		
Depreciation	374.90		
Office Supplies Used	318.00		
Telephone and Telegraph	225.00		
Sundry General Expenses	375.00	13,492.90	50,495.50
Operating Profit			$ 8,564.70
Add:			
Interest on Notes Receivable			853.00
			$ 9,417.70
Deduct:			
Interest on Bonds Payable			4,550.00
Net Profit			$ 4,867.70

Williams Manufacturing Co.

Statement of Cost of Goods Manufactured
Profit and Loss—Schedule 1
Year ended December 31, 1944

Goods in Process, Jan. 1			$ 8,572.00
Raw Materials Used:			
Inventory, Jan. 1		$ 14,743.00	
Raw Materials Purchases	$89,750.00		
Less: Raw Materials Returns	1,950.00	87,800.00	
Freight In		2,678.00	
		$105,221.00	
Inventory, Dec. 31		13,347.00	$ 91,874.00
Direct Labor			101,733.00
Indirect Manufacturing Costs			
Indirect Labor		$ 18,878.00	
Heat, Light, and Power		11,295.00	
Depreciation of Machinery		4,486.40	
Depreciation of Buildings		3,600.00	

Spoiled Goods	2,468.00	
Factory Taxes	1,724.40	
Factory Supplies Used	1,482.00	
Tools	1,275.00	
Factory Insurance	1,080.00	
Repairs to Factory Building	521.00	
Sundry Factory Costs	5,103.00	51,912.80
		$254,091.80
Deduct:		
Goods in Process, Dec. 31		13,264.00
Cost of Goods Manufactured		$240,827.80

The Balance Sheet of the Manufacturing Enterprise. The balance sheet of a manufacturing enterprise is similar to the balance sheet of any other enterprise. The inventories of raw materials, goods in process, and finished goods ordinarily meet the current asset requirements and are shown in that classification. Factory supplies are frequently shown as current assets, but many accountants think that it is preferable to show them as prepaid expenses.

The following is an example of a balance sheet of the Williams Manufacturing Co.

Williams Manufacturing Co.

Balance Sheet
December 31, 1944
Assets

Current Assets			
Cash		$21,979.55	
U. S. Government Bonds		13,000.00	
Notes Receivable	$10,040.00		
Less: Notes Receivable Discounted	5,000.00	5,040.00	
Accounts Receivable	$55,504.00		
Less: Reserve for Doubtful Accounts	1,570.00	53,934.00	
Inventory, Raw Materials		18,650.50	
Inventory, Goods in Process		8,350.25	
Inventory, Finished Goods		10,000.75	
Accrued Revenue		357.50	$131,312.55
Prepaid Expenses			
Factory Supplies		$ 1,460.00	
Unexpired Insurance		625.00	
Office Supplies		85.00	2,170.00
Fixed Assets			
Land		$30,000.00	
Buildings	$80,000.00		
Less: Reserve for Depreciation	25,500.00	54,500.00	
Machinery	$45,080.00		
Less: Reserve for Depreciation	30,050.80	15,029.20	
Tools		1,050.00	
Office Equipment	$2,719.00		
Less: Reserve for Depreciation	1,839.80	879.20	
Goodwill		10,500.00	111,958.40
Total Assets			$245,440.95

Liabilities and Proprietorship

Current Liabilities		
Notes Payable	$ 18,050.00	
Accounts Payable	8,675.00	
Accrued Expenses Payable	3,200.00	$ 29,925.00
Bonds Payable		60,000.00
Proprietorship		
Capital Stock	$100,000.00	
Surplus	55,515.95	$155,515.95
		$245,440.95

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Is the total of the depreciation of factory machinery for the period an expense?

2. Is there any fundamental difference in the theory of cost allocation as applied to merchandising enterprises as compared with manufacturing enterprises?

3. What practical difference is there in cost allocation for manufacturing enterprises as distinguished from merchandising enterprises?

4. What are direct costs?

5. What is direct labor?

6. What are raw materials? Give an example.

7. What are supplies?

8. What are indirect manufacturing costs? Why is the term *indirect manufacturing costs* better than the term *manufacturing expenses?*

9. Name as many indirect manufacturing costs as you can.

10. Are the indirect manufacturing costs fixed costs?

11. Should an enterprise manufacturing only one product distinguish between its direct and indirect costs?

12. What accounts are closed into the Manufacturing account?

13. Before the cost of the final inventories of goods in process and the cost of the goods manufactured during the period are entered on the credit side of the Manufacturing account, what does balance of this account represent?

14. If you were able to determine the cost of the goods finished during a period, could you determine the cost of the goods in process inventory?

15. During the period, goods on which $5,000 had been expended were spoiled. Would you make any entry to record the spoiled goods? If no entry were made for the cost of the spoiled goods, where would this cost be reflected?

16. Can you present an argument in favor of using a Spoiled Goods account?

17. What is a manufacturing cost statement, or cost of goods manufactured statement?

18. How could you convert a manufacturing cost statement into a cost of goods sold statement?

19. In the manufacture of zinc, the ore goes through the following processes: the ore is crushed and ground into a fine powder, the ore is then roasted, and the powder is then dissolved in acid, which goes through an electrolitic process to produce zinc sheets. Finally, the zinc sheets are melted and zinc bars or pigs are obtained. How would you determine the cost of the goods in process at the end of the period?

20. What is a unit cost statement?

21. The costs of direct labor were $5.45 per unit in 1941 and $6.15 per unit in 1942. Was the labor more inefficient in 1942 than in 1941?

LABORATORY PROBLEMS

1. (a) From the following data determine the cost of the raw materials used during 1944, the direct labor cost, and the total of the indirect manufacturing costs for 1944. Inventory of raw materials, January 1, 1944, $9,000; inventory of raw materials, December 31, 1944, $11,000; raw materials purchased during 1944, $68,900; freight in on raw materials, $1,200; indirect labor, $3,800; factory heat, light, and power, $3,200; factory supplies used, $1,800; factory repairs, $2,100; depreciation of the factory building and equipment, $2,750. The direct labor payroll for 1944 totaled $56,200. The accrued direct labor amounted to $1,200 on January 1, 1944, and to $1,500 on December 31, 1944.

(b) Would the total of the three costs you obtained in part (a) be the cost of the goods manufactured during the year?

2. Make entries, as of December 31, 1944, in ledger accounts to record the following. Raw materials were purchased for $5,000 cash. Freight in of $500 was paid on the raw materials. Factory property taxes of $300 were paid. Direct labor costs of $3,000 were paid. Indirect labor costs of $800 were paid. The Electrical Service Co. was paid $115 for electricity used for light and power by the factory. Factory supplies were purchased for $105 cash. The accrued direct labor amounted to $200; the accrued indirect labor amounted to $100; depreciation of the factory and its equipment amounted to $210; the factory supplies on hand amounted to $25; accrued property taxes on the factory amounted to $50.

3. (a) The Milton Manufacturing Co. rented space from the Rush Terminals for $600 per month. The Rush Terminals kept the space in repair and provided light, heat, and power for an additional $125 a month. The following were the balances of the manufacturing accounts on the books of the Milton Manufacturing Co. on January 1, 1944:

Inventory of Raw Materials	$3,250
Inventory of Goods in Process	1,825
Inventory of Finished Goods	2,650
Inventory of Factory Supplies	300

Open accounts in the ledger and record the above balances. As you proceed, open whatever accounts you need.

Make ledger entries to record the following transactions which were entered in the voucher register during January [credit Vouchers Payable.]

Direct Labor	$ 5,260	
Indirect Labor	325	
Raw Materials Purchased	25,600	
Factory Supplies	175	
Building Costs	725	[Payment to Rush Terminals]

On January 31 adjusting entries are to be made in the ledger accounts to record the following:

Inventory of Raw Materials	$4,160
Inventory of Goods in Process	2,125
Inventory of Factory Supplies	185
Inventory of Finished Goods	2,810

The accrued expenses were:

Direct Labor	$ 365
Indirect Labor	115

Make all the entries that should be made to close the Manufacturing account and to obtain the cost of goods sold.

(b) Make up a statement of manufacturing cost.

4. Make up a statement of cost of goods manufactured and cost of goods sold for A. B. Joy & Co. from the following: goods in process, January 1, 1944, $10,000; goods in process, December 31, 1944, $12,000; raw materials on hand, January 1, 1944, $15,000; raw materials purchased, $60,000; direct labor, $55,000; indirect labor, $10,000; factory supplies used, $8,000; depreciation of plant and equipment, $10,000; repairs to plant and equipment, $2,000; power used, $1,200; finished goods inventory, January 1, $9,000; finished goods inventory, December 31, 1944, $8,000; raw materials on hand December 31, 1944, $13,500.

5. (a) Open T accounts and enter the following balances of the accounts of Stiles and Sons as of January 1, 1944:

Cash	$ 3,300	
Accounts Receivable	8,000	
Reserve for Doubtful Accounts		$ 300
Inventories:		
Raw Materials	2,400	
Goods in Process	1,000	
Finished Goods	4,500	
Factory Supplies	700	
Factory Buildings and Equipment	11,500	
Reserve for Depreciation of Machinery and Equipment		1,000
Vouchers Payable		4,100
Accrued Direct Labor		300
Accrued Indirect Labor		100
Capital Stock		17,000
Surplus		8,600
	$31,400	$31,400

Open the T accounts you need and post, as of January 31, the following data entered in the books of original entry:

Voucher register debits:	
Raw Materials Purchased	$ 8,000
Factory Supplies	1,000
Direct Labor	6,900
Indirect Labor	900
Factory Heat, Light, Power	800
Factory Repairs	1,700
Selling Expenses	2,400
General Expenses	2,550
	$24,250
Sales Journal:	
Sales on Account	$24,000
Cash Receipts Journal:	
Accounts Receivable	$15,000
Cash Sales	10,000
Cash Received	$25,000
Cash Disbursements Journal:	
Vouchers Payable	$21,000

Make the readjusting entries if you wish.

From the following information make adjusting entries in the journal and post to T accounts:

Inventories on January 31:	
Raw Materials	$2,000
Goods in Process	3,000
Finished Goods	5,000
Factory Supplies	1,100
Depreciation of Machinery and Equipment 1 per cent of cost	
Accrued Direct Labor	$ 400
Accrued Indirect Labor	200

Make any additional entries needed to close the manufacturing accounts to Manufacturing, to record the cost of goods sold, and to close the revenue and expense accounts to the Profit and Loss Summary.

(b) Make up a statement of cost of goods manufactured and cost of goods sold.

(c) Make up a statement of profit and loss for January and a balance sheet as of January 31, 1944.

6. The balance of the Manufacturing account of the Plimpton Manufacturing Co. at the end of 1942, but before the cost of the goods in process inventory was recorded, was $450,000. During 1942, 100,000 units of the product were finished and delivered to the shipping department. On December 31, 1942, 10,000 units were in the process of manufacture. These units were, on the average, one-half completed. There were no inventories at the beginning of this period.

(a) If all the manufacturing costs were incurred proportionately throughout the process of manufacture, what would be the cost of each unit in the finished goods inventory? What would be the cost of the goods in process inventory?

(b) The manufacturing costs for 1942 were: raw materials, $150,000; direct labor, $225,000; and indirect manufacturing costs, $75,000; total, $450,000.

If all the raw materials for each unit were put into process when work was started on the product, and if each unit were one-half completed, determine the cost of the inventory of the goods in process.

7. (a) The manufacturing costs for the period were as follows:

Cost of goods in process at the beginning of the period	$ 10,000*
Raw materials used	60,000
Direct labor	50,000
Indirect manufacturing costs	20,000
	$140,000

* Includes raw materials of $5,000.

At the beginning of the period there were in process 4,000 units one-fourth completed. The final inventory of goods in process was made up of 9,000 units one-third completed. During the period, 100,000 units were completed. All the raw materials were put into process at the start of the operations.

Determine the cost of the final inventory of goods in process and of finished goods. There were 15,000 units of finished goods on hand at the end of the period.

(b) On what basis was the cost of raw materials used determined in part (a)? Could any other basis be used?

8. (a) During 1940, 150,000 units were sold, 140,000 units were manufactured and 10,000 units of finished goods were on hand on December 31. How many units were in the initial inventory of finished goods?

(b) The cost of goods manufactured during 1940 was $150,000. There were 12,000 units of finished goods in the final inventory, which cost $18,000. The beginning inventory of finished goods contained 8,000 units. Determine the number of units sold during 1940.

9. The Merriwell Manufacturing Co. produced 30,000 maple chairs during 1942. Make up a unit cost statement from the following:

Inventory of Maplewood, Jan. 1, 1942	$10,000
Inventory of Maplewood, Dec. 31, 1942	12,000
Purchases of Maplewood	20,000
Transportation In	1,000
Direct Labor	29,000
Indirect Labor	4,000
Depreciation of Plant and Equipment	2,000
Repairs to Plant	1,200
Factory Supplies Used	3,400
Sundry Factory Expenses	4,300

Goods in process, January 1, 1942, $4,600, made up as follows: raw materials $1,300, direct labor $2,100, indirect manufacturing costs $1,200.

Goods in process, December 31, 1942, $5,800, made up as follows: raw materials $1,600, direct labor $2,800, indirect manufacturing costs $1,400.

10. The following is a summary of the raw materials used:

	Amount	*Per Unit*
Inventory, Jan. 1, 1942		
[Enough for 10,000 units]	$20,000	$2
Purchases		
[Enough for 12,000 units]	36,000	3
	$56,000	
Inventory, Jan. 31, 1942	33,000	
Raw Materials Used	$23,000	

The unit cost was $6.64 compared with $6.45 for the year 1941. The management of the company asked you to explain why the unit costs had advanced so little when prices of raw materials used had advanced 50 per cent.

CHAPTER XXV. THE MANUFACTURING WORK SHEET

The Manufacturing Work Sheet. A work sheet is ordinarily used by manufacturing enterprises to facilitate the procedure of adjusting and closing the books and preparing the statements. The work sheet illustrated on page 446 is similar to the one with which the reader is already familiar. The chief differences are the addition of debit and credit columns for the manufacturing accounts and some differences in recording the final inventories. The Manufacturing columns are provided so that the manufacturing costs can be segregated by extending the balances of the manufacturing accounts to these columns.

The Manufacturing Work Sheet Procedure. The final inventories are recorded differently because the process of obtaining the cost of goods sold is complicated by the fact that the manufacturing costs must be obtained first.

The procedure followed in making up the work sheet on page 446 may be briefly summarized as follows:

1. The preclosing trial balance is entered in the Trial Balance columns.

2. The adjusting entries *with the exception of those for the inventories* are made exactly as before.

3. The balances in the Trial Balance and Adjustments columns are combined and extended to the proper Manufacturing columns, the Profit and Loss columns, or the Balance Sheet columns. All the manufacturing cost accounts, including the beginning inventories of raw materials and goods in process, are extended to the Manufacturing columns. The inventory of finished goods is extended to Profit and Loss debit column.

4. The final inventory of raw materials is entered in the Manufacturing credit column and in the Balance Sheet debit column.

5. The Manufacturing columns are totaled and the difference carried down. In the work sheet on page 447 this difference is $150,034.80, which is the total of the manufacturing costs for the period.

6. Computations are then made (not on the work sheet) to obtain the portion of the total manufacturing costs that applies to the final inventory of goods in process and the portion that applies to the cost of goods manufactured during the period. The cost of the final inventory of goods in process is entered in the Manufacturing credit column and in the Balance Sheet debit column. The cost of the goods manufactured during the period is then entered in the Manufacturing credit column and in the Profit and Loss debit column.

7. The final inventory of finished goods is entered in the Profit and Loss credit column and in the Balance Sheet debit column.

8. The Profit and Loss columns are totaled and the balance entered in the column having the smaller total, and in the offsetting Balance Sheet column. The Balance Sheet columns are then added and the totals should agree.

Inventory Adjustments. All the adjusting entries on the work sheet of The Emerson Manufacturing Co. on page 446, except those for the inventories, are made exactly as before and the Adjustments columns are totaled. The amounts in the Trial Balance and Adjustments columns are combined and extended to the proper Manufacturing, Profit and Loss, and Balance Sheet columns. The work sheet is then completed except for the changes necessitated by the final inventories. During this process the inventories of raw materials and goods in process at the beginning of the period are entered in the Manufacturing debit column, and the inventory of finished goods is entered in the Profit and Loss debit column.

We are now ready to record the final inventories. The final inventory of raw materials, $8,645.40, on the work sheet on page 446, is entered in the Manufacturing credit column and in the Balance Sheet debit column. When the journal entries are made from the Manufacturing columns this amount is posted to the debit of Raw Materials and to the credit of the Manufacturing account.

The two Manufacturing columns are totaled, and the difference of $150,034.80 obtained is brought down. This is the total of all the manufacturing costs recorded. It is the cost of the goods manufactured or finished during the period together with the goods still in process at the end of the period. Hence the $150,034.80 must be divided between the final inventory of goods in process and the cost of goods manufactured. A very brief explanation of the problems that arise in the division of the total manufacturing costs was given in Chapter XXIV, page 432. The details of this process, which can be quite complicated, do not belong in a volume of this type, but in a work on cost accounting. The amounts for The Emerson Manufacturing Co. were Goods in Process, $6,475.20, and Cost of Goods Manufactured, $143,559.60. The cost of the inventory of goods in process is entered in the Manufacturing credit column and in the Balance Sheet debit column. The cost of the goods manufactured during the period is entered in the Manufacturing credit column and in the Profit and Loss debit column.

The final inventory of finished goods, $14,242.10, is now recorded by an entry in the Profit and Loss credit column and an entry in the Balance Sheet debit column. This amount will be recorded in the books when the journal entries are made from the Profit and Loss columns. It will be a debit to Finished Goods and a credit to the Profit and Loss Summary account.

The Profit and Loss columns are now totaled and the balance entered

The Emerson Products Co.

Work Sheet, December 31, 1942

Account Name	Trial Balance Dr.	Trial Balance Cr.	Adjustments Dr.	Adjustments Cr.	Manufacturing Dr.	Manufacturing Cr.	Profit and Loss Dr.	Profit and Loss Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	4,250 60								4,250 60	
Accounts Receivable	12,342 10								12,342 10	
Res for Doubtful Accts		645 80		(h) 75 00						720 80
Raw Materials	7,645 10				7,645 10	(m) 8,645 40			(m) 8,645 40	
Goods in Process	5,695 60				5,695 60				(n) 6,475 20	
Finished Goods	16,896 20						16,896 20	(o) 14,242 10	(o) 14,242 10	
Factory Supplies	3,216 20			(c) 2,740 20					476 00	
Sales Supplies	4,620 40			(i) 1,605 40					3,015 00	
Office Supplies	596 10			(j) 350 00					246 10	
Prepaid Insurance	200 00			(l) 50 00					150 00	
Land	10,000 00								10,000 00	
Buildings	45,015 00								45,015 00	
Res. for Deprec. of Buildings		8,896 10		(a) 2,250 75						11,146 85
Machinery and Equipment	11,201 00								11,201 00	
Res. for Deprec. of Machinery and Equipment		2,840 20		(b) 1,120 10						3,960 30
Office Equipment	1,326 45								1,326 45	
Res. for Deprec. of Office Equipment		525 10		(g) 60 25						585 35
Accounts Payable		5,426 80								5,426 80
Accrued Payroll				(d) 2,512 60 (e) 407 10						2,919 70
Accrued Interest Payable				(k) 720 00						720 00
Accrued Factory Insurance and Taxes				(f) 240 95						240 95
Mortgage Payable		12,000 00								12,000 00
Capital Stock		15,000 00								15,000 00
Surplus		49,821 30								49,821 30
Purchases of Raw Materials	65,892 25				65,892 25					
Raw Materials, Returns and Allowances		842 30				842 30				
Transportation of Raw Materials	5,746 15				5,746 15					
Sales		175,000 00						175,000 00		
Direct Labor	45,980 50		(d) 2,512 60		48,493 10					
Indirect Labor	8,010 10		(e) 407 10		8,417 20					
Supervision	6,520 25				6,520 25					
Heat, Light, Power	2,896 70				2,896 70					
Factory Insurance and Taxes	814 15		(f) 240 95 (l) 50 00		1,105 10					
Factory Repairs	1,000 00		(c) 500 00		1,500 00					
Depreciation of Factory Buildings			(a) 2,250 75		2,250 75					
Depreciation of Machinery and Equipment			b) 1,120 10		1,120 10					

Factory Supplies Used			(c) 2,240 20		2,240 20					
Sales Salaries	4,282 05						4,282 05			
Sales Supplies Used			(i) 1,605 40				1,605 40			
Advertising	1,785 10						1,785 10			
Sundry Selling Expenses	685 30						685 30			
Office Salaries	3,820 20						3,820 20			
Office Supplies Used			(j) 350 00				350 00			
Sundry Office Expenses	494 20						494 20			
Taxes, General	65 90						65 90			
Bad Debts			(h) 75 00				75 00			
Depreciation of Office Equipment			(g) 60 25				60 25			
Interest Expense			(k) 720 00				720 00			
	270,997 60	270,997 60	12,132 35	12,132 35	159,522 50	9,487 70				
Balance Down						150,034 80				
					159,522 50	159,522 50				
Total Manufacturing Costs					150,034 80					
Final Inventory of Goods in Process						(n) 6,475 20				
Cost of Goods Manufactured						143,559 60	143,559 60			
					150,034 80	150,034 80				
Net Profit before Taxes							14,842 90			14,842 90
							189,242 10	189,242 10	117,384 95	117,384 95

in the column with the smaller total, and in the offsetting Balance Sheet column. This amount, $14,842.90, will be recorded on the books when the entries are made from the Profit and Loss columns.

The Balance Sheet columns are now totaled and should agree.

The Statements. We are now ready to prepare the statements and to make the adjusting and closing entries. The Statement of Cost of Goods Manufactured of The Emerson Products Co. is illustrated below. The balance sheet and statement of profit and loss would be prepared as before.

The Emerson Products Co.

Statement of Cost of Goods Manufactured

January 1 to January 31, 1942

Goods in Process, Jan. 1, 1942			$ 5,695.60
Raw Materials Used:			
Inventory, Jan. 1		$ 7,645.10	
Purchases	$65,892.25		
Less: Purchase Returns and Allowances	842.30	65,049.95	
Transportation of Raw Materials		5,746.15	
		$78,441.20	
Inventory, Jan. 31		8,645.40	69,795.80
Direct Labor			48,493.10
Indirect Manufacturing Costs:			
Sundry Indirect Labor		$ 8,417.20	
Supervision		6,520.25	
Depreciation of Plant		2,250.75	
Depreciation of Equipment		1,120.10	
Heat, Light, Power		2,896.70	
Factory Supplies Used		2,740.20	
Factory Insurance and Taxes		1,105.10	
Factory Repairs		1,000.00	26,050.30
Total Manufacturing Costs			$150,034.80
Deduct: Goods in Process, Jan, 31, 1942			6,475.20
Costs of Goods Manufactured			$143,559.60

The Journal and Ledger Entries. The adjusting and closing journal entries are now illustrated. The adjusting entries are made from the columns headed Adjustments and Manufacturing. First, journal entries are made from the debits and credits in the Adjustments columns; each of the following journal entries is lettered to correspond with the entries on the work sheet:

(a)	Depreciation of Factory Buildings	$2,250.75	
	Reserve for Depreciation on Buildings		$2,250.75
	To record depreciation of 5% per year on buildings		
(b)	Depreciation of Machinery and Equipment	1,120.10	
	Reserve for Depreciation of Machinery and Equipment		1,120.10
	To record depreciation of 10% per year on equipment		

(c)	Factory Repairs	$ 500.00	
	Factory Supplies Used	2,240.20	
	Factory Supplies		$2,740.20
	To record cost of factory supplies used		
(d)	Direct Labor	2,512.60	
	Accrued Direct Labor		2,512.60
	To record accrued direct labor		
(e)	Indirect Labor	407.10	
	Accrued Indirect Labor		407.10
	To record accrued indirect labor		
(f)	Factory Insurance and Taxes	240.95	
	Accrued Insurance and Taxes		240.95
	To record accrued taxes on the factory		
(g)	Depreciation of Office Equipment	60.25	
	Reserve for Depreciation of Office Equipment		60.25
	To record depreciation of office equipment		
(h)	Bad Debts	75.00	
	Reserve for Doubtful Accounts		75.00
	To record estimated bad debts		
(i)	Sales Supplies Used	1,605.40	
	Sales Supplies		1,605.40
	To record cost of sales supplies used		
(j)	Office Supplies Used	350.00	
	Office Supplies		350.00
	To record cost of office supplies used		
(k)	Interest Expense	720.00	
	Accrued Interest Payable		720.00
	To record interest of 6% for 1 year on mortgage payable		
(l)	Factory Insurance and Taxes	50.00	
	Prepaid Insurance		50.00
	To record expired insurance		

The journal entries from the Manufacturing columns may be partly compounded. The total of the Manufacturing debit column may be debited to Manufacturing and each individual account credited as follows:

Manufacturing	$159,522.50	
Raw Materials		$ 7,645.10
Raw Materials Purchases		65,892.25
Transportation of Raw Materials		5,746.15
Goods in Process		5,695.60
Direct Labor		48,493.10
Indirect Labor		8,417.20
Supervision		6,520.25
Heat, Light, Power		2,896.70
Factory Insurance and Taxes		1,105.10
Factory Repairs		1,500.00
Depreciation of Buildings		2,250.75
Depreciation of Machinery		1,120.10
Factory Supplies Used		2,240.20
To close balances of above manufacturing accounts to Manufacturing		

The total of the Manufacturing credit column may be credited to Manufacturing and the respective accounts debited as follows:

Raw Materials Returns and Allowances	$ 842.30	
Raw Materials	8,645.40	
Manufacturing		$9,487.70
To close above accounts to Manufacturing		

An entry is then made to record the final inventory of goods in process:

Goods in Process	$6,475.20	
Manufacturing		$6,475.20
To record cost of goods in process		

The entries to the Profit and Loss Summary may be made from the Profit and Loss columns as follows:

Profit and Loss Summary	$189,242.10	
Finished Goods		$16,896.20
Sales Salaries		4,282.05
Advertising		1,785.10
Sundry Selling Expenses		685.30
Office Salaries		3,820.20
Sundry Office Expenses		494.20
Taxes, General		65.90
Depreciation of Office Equipment		60.25
Bad Debts		75.00
Sales Supplies Used		1,605.40
Office Supplies Used		350.00
Interest Expense		720.00
Manufacturing		143,559.60
Surplus		14,842.90
To record the debits to Profit and Loss Summary		

Sales	$175,000.00	
Finished Goods	14,242.10	
Profit and Loss Summary		$189,242.10
To close Sales and record final inventory of finished goods		

When these journal entries are posted to the ledger accounts, the Manufacturing account and the Profit and Loss Summary account will appear as follows:

Manufacturing

Jan. 31	159,522.50	Jan. 31	9,487.70
		31	6,475.20
		31	143,559.60
	159,522.50		159,522.50

Profit and Loss Summary

Jan. 31	189,242.10	Jan. 31	189,242.10

It will be observed that a Cost of Goods Sold account was not used in the preceding adjusting and closing procedure. This account was omitted for two reasons: to simplify the adjusting and closing entries, and because it is not actually needed in noncost manufacturing accounting. Since the data for the cost of goods sold are included in the Profit and Loss columns of the work sheet, the details can be obtained directly from

these columns. Consequently, in making up a statement of profit and loss from the Profit and Loss columns of the work sheet, the accountant has all the information he needs. For The Emerson Products Co. he would show the cost of goods sold as follows:

Cost of Goods Sold	
Inventory, Finished Goods, Jan. 1	$16,896.20
Manufacturing Costs	143,559.60
	160,455.80
Inventory, Finished Goods, Jan. 31	14,242.10
	146,213.70

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. When making the adjusting entries on the work sheet of a merchandising enterprise, what entries should you make to obtain the cost of goods sold?

2. Why would these same entries not be satisfactory for a manufacturing enterprise?

3. The total manufacturing costs of the Stiles Manufacturing Co. for the year 1944 were $185,328.60. To what do these costs apply?

4. The following is a portion of a work sheet:

	Manufacturing		Profit and Loss		Balance Sheet	
Inventory, Raw Materials		1,208.20			1,208.20	
	99,214.80	3,589.50				
Total manufacturing costs, balance down		95,625.30				
	99,214.80	99,214.80				
	95,625.30					
Inventory, Goods in Process		8,930.25			8,930.25	
Cost of Goods Manufactured		86,695.05	86,695.05			
	95,625.30	95,625.30				
Inventory, Finished Goods				9,845.10	9,845.10	
Net Profit			3,563.50			3,563.50
			xxxx	xxxx	xxxx	xxxx

Explain clearly every figure on the above work sheet and give whatever journal entries would be made from these figures.

5. How would you proceed to determine how much of the total manufacturing costs apply to the goods in process?

6. What statement may be made up from the amounts in the Manufacturing columns?

7. Refer to question 5. Starting with the amount $1,208.20, explain the journal entries you would make from the column headed Manufacturing.

8. What journal entries would be made from the Profit and Loss columns?

LABORATORY PROBLEMS

1. The following was the trial balance of the Welton Manufacturing Co. on December 31, 1942:

Cash	$ 25,000	
Accounts Receivable	35,000	
Inventory of Raw Materials	12,500	
Inventory of Goods in Process	15,600	
Inventory of Finished Goods	10,800	
Inventory of Factory Supplies	2,400	
Accounts Payable		$ 15,600
Capital Stock		100,000
Surplus		43,900
Purchases of Raw Materials	55,800	
Direct Labor	43,800	
Indirect Labor	10,400	
Factory Rent	3,600	
Sundry Factory Expenses	4,800	
Sales		78,000
Sales Salaries	5,000	
Sales Traveling Expenses	4,800	
Sundry Selling Expenses	2,800	
Office Salaries	3,400	
Sundry Office Expenses	1,800	
	$237,500	$237,500

Adjusting Information on December 31, 1942

Inventories:	
Factory Supplies	$ 600
Raw Materials	14,200
Goods in Process	16,400
Finished Goods	12,300
Unpaid Sales Salaries	200

(a) Make up a work sheet.

(b) Make up a statement of manufacturing cost.

2. This is the trial balance of the Polson Manufacturing Co. on December 31, 1944:

Cash	$ 5,000	
Accounts Receivable	18,500	
Reserve for Doubtful Accounts		$ 800
Inventory of Raw Materials	10,800	
Inventory of Goods in Process	4,300	
Inventory of Finished Goods	9,800	
Inventory of Factory Supplies	1,800	
Land	8,000	
Buildings and Equipment	25,000	
Reserve for Depreciation on Buildings and Equipment		8,000
Accounts Payable		10,000
Capital Stock		50,000
Deficit	6,900	
Sales		135,000
Purchases, Raw Materials	38,700	
Transportation of Raw Materials	2,300	
Purchases Returns, Raw Materials		1,500
Direct Labor	39,000	
Indirect Labor	12,000	
Repairs to Factory	1,000	
Factory Power and Light	3,000	

Sundry Factory Expenses	$ 2,000	
Sales Salaries	3,400	
Advertising Expenses	3,000	
Freight Out	2,000	
Sales Commissions	3,800	
Office Salaries	2,900	
Sundry Office Expenses	3,300	
Purchase Discounts		$ 1,200
	$206,500	$206,500

Adjusting information, December 31, 1944, for the year 1944: Depreciation, 10% of the cost of the building and equipment. Inventory of factory supplies, $600. The cost of the inventory of goods in process is 5% of the total manufacturing cost. Inventory of finished goods, $7,800. Inventory of raw materials, $9,500.

(a) Make up a work sheet.

(b) Make up a statement of manufacturing cost and cost of goods sold.

3. The following is the trial balance of the Harbor Chemical Co. on December 31, 1944:

Cash	$ 2,450	
Accounts Receivable	25,000	
Reserve for Doubtful Accounts		$ 1,000
Raw Materials Inventory	10,000	
Goods in Process Inventory (4,000 units, ½ completed)	4,000	
Finished Goods Inventory	8,000	
Inventory of Factory Supplies	400	
Prepaid Factory Insurance	150	
Office Supplies	200	
Sales Supplies	600	
Land	6,000	
Factory Buildings	20,000	
Reserve for Depreciation of Factory Buildings		6,000
Machinery and Equipment	10,000	
Reserve for Depreciation of Machinery and Equipment		4,000
Accounts Payable		5,000
Capital Stock		55,000
Surplus		12,000
Sales		85,300
Purchases, Raw Materials	30,000	
Freight In, Raw Materials	2,000	
Direct Labor	20,000	
Indirect Labor	4,000	
Factory Repairs	2,000	
Factory Heat, Light, Power	2,400	
Factory Taxes and Insurance	800	
Sales Salaries	5,000	
Sales Supplies Used	3,600	
Advertising Expense	4,800	
Sundry Selling Expenses	2,800	
Office Salaries	3,600	
Sundry Office Expenses	500	
	$168,300	$168,300

Adjusting information, December 31, 1944, for the year 1944: Prepaid factory insurance, $80. Bad debts, 0.5% of sales. Depreciation of factory buildings, 5% of cost. Depreciation of machinery and equipment, 10% of cost. Accrued direct labor, $300. Accrued indirect labor, $175. Inventory of factory supplies, $150. Inventory of office supplies, $75. Inventory of sales supplies, $200. Inventory of raw materials, $5,000.

The manufacturing costs, including the cost of raw materials, were incurred proportionately throughout the manufacturing process. The inventory of goods in process on December 31, 1944, was made up of 8,000 units, one-half completed; 68,000 units were completed during 1944. Inventory of finished goods, $9,000.

(a) Make up a work sheet.

(b) Make up a statement of manufacturing cost and cost of goods sold.

4. The following are the accounts of the Wilson, Jones Manufacturing Co. as of December 31, 1943:

Cash	6,500
Accounts Receivable	45,200
Raw Materials	18,600
Goods in Process	22,400
Finished Goods	19,500
Factory Supplies	4,300
Office Supplies	600
Land	10,000
Building	20,000
Machinery and Equipment	15,500
Accounts Payable	9,500
Reserve for Depreciation of Building	11,000
Reserve for Depreciation of Machinery and Equipment	7,500
Bonds Payable	15,000
Capital Stock	125,000
Surplus	–
Sales	166,500
Purchases, Raw Materials	74,200
Direct Labor	58,900
Indirect Labor	11,200
Supervision	10,500
Factory Repairs and Maintenance	2,500
Factory Heat, Light, and Power	9,400
Sundry Factory Costs	1,500
Sales Salaries	12,000
Advertising Expenses	4,200
Sundry Selling Expenses	3,600
Office Salaries	4,800
Sundry Office Expenses	3,600
Sales Discounts	1,900
Interest Expense	900

Adjusting information as of December 31, 1943, for the year 1943: Depreciation, 5% of cost of buildings (all manufacturing cost), 10% of cost of machinery and equipment. Bad debts, 1% of sales.

Inventories:	
Raw Materials	$25,400
Goods in Process	15,400
Finished Goods	18,600
Factory Supplies	2,000
Office Supplies	200
Accrued Payroll:	
Direct Labor	2,400
Indirect Labor	900
Supervision	800
Office Salaries	200
Sales Salaries	300

(a) Make up a work sheet.

(b) Make up a statement of manufacturing cost.

CHAPTER XXVI. COST ACCOUNTING

Nature of Cost Accounting. Cost accounting is accounting for the cost of some measurable units such as products, processes, or operations. Ordinarily the purpose of cost accounting is to determine costs of particular products. These costs may be obtained for specific lots or batches of the products or for operations or processes, from which the costs of products are computed. These two different methods of obtaining costs are called:

Job lot, job order, or specific order cost accounting, and
Operation or process cost accounting.

The first type is used when it is desirable to identity specific lots or batches as they are manufactured. The costs of each job lot, often called a lot, are determined as that lot is manufactured. This type of cost accounting is commonly used in intermittent manufacturing as distinguished from continuous process manufacturing. Machine shops, furniture factories, and the like manufacture products in lots. This type of manufacturing is particularly suited to job lot cost accounting because each lot is usually quite easily segregated from other lots.

The second type of cost accounting, accounting for the costs of operations or processes, is used when products go through a continuous process of manufacture, or when products are manufactured in exceedingly large lots, as in the mass production industries. In the manufacture of sugar, pulp, cement, and chemicals where the products flow from one process to another in a continuous stream little would be gained by attempting to obtain the costs of different lots even if the lots could be identified.

Both methods of determining costs are fundamentally the same; costs are computed for units. Under job lot cost accounting the unit is the job lot; under operation or process cost accounting the unit is the operation or the process.

Cost accounting provides the same information as manufacturing accounting and goes further; it provides costs of various cost units such as products, lots, or processes. In addition, such costs as labor and materials are provided currently, not just at the end of the accounting period.

Direct Costs. In the discussion of manufacturing accounting it was

explained that direct costs are distinguished from indirect costs. This distinction is very important in cost accounting.

Direct costs in cost accounting are those costs for which a particular cost unit alone is responsible. If the cost unit is a job lot the direct costs of that lot are the costs of the materials used, the labor, and any other costs for which that lot alone is responsible. If a factory produced two products, tables and chairs, the direct costs of the tables would be the costs for which the tables alone were responsible, which would include the materials used and the direct labor. There would be other direct costs but these would be relatively unimportant, would be difficult to measure, and in all probability would be included with the indirect costs.

A few examples of other direct costs are: The depreciation of a special machine used for a particular job lot only; the cost of any special lighting required for a particular product; and the cost of supervision needed for a particular lot or product alone.

On the other hand, the costs of raw materials and direct labor may not always be direct costs. In the meat-packing industry and in the sawmill industry the costs of raw materials and labor up to certain stages of production are not direct costs of any particular finished product.

Direct costs may be fixed or variable. The depreciation of a special machine, used exclusively for one product, would be both a direct cost and also a fixed cost, but ordinarily most direct costs will be variable costs.

Indirect Manufacturing Costs. *The terms indirect manufacturing costs, manufacturing overhead, and manufacturing burden are used for those costs which apply to more than one cost unit.* The indirect costs of a particular job lot would include costs of supervision, of space used, of machines used for this lot and other lots, of repairs, and of heat, light, and power, etc.

In cost accounting, these indirect costs are allocated to the cost unit on some such basis as the direct labor costs, direct labor hours, or machine hours. When the cost unit is a job lot, and many products are manufactured in the plant, a portion of the indirect manufacturing costs would be allocated to each job lot.

The indirect costs cannot be allocated to the cost units with as high a degree of accuracy as the direct costs. Quite accurate records could be kept of the labor and materials used in the manufacture of a lot of 200 suits of clothing, but the portions of other costs, such as the depreciation, insurance, and taxes on the building, the heat and light, the depreciation, insurance, and taxes on the machines, the repairs to the building and machines, the power, and the salaries of supervisors, that apply to that particular lot can only be approximated. However, when sound methods are followed, satisfactory approximations can be made. If the raw materials and direct labor used in the manufacture of 200 men's suits amount

to $800 and $500, respectively, the direct costs would amount to $1,300. Obviously, this is not the total cost of the 200 suits. If the estimated amount of these other costs is $350, the cost of the 200 suits would be considered to be $1,650, or $8.25 per suit.

Of the many indirect manufacturing costs the following are typical:

Space costs:
- Depreciation
- Insurance
- Taxes
- Repairs
- Heating and lighting

Equipment costs:
- Depreciation
- Insurance
- Taxes
- Repairs

Power costs:
- Plant labor
- Supplies used by power plant
- Depreciation, insurance and taxes on the plant

Indirect labor:
- Supervision
- Planning, etc.

Factory supplies used.

The Allocation of Indirect Manufacturing Costs to Cost Units. In cost accounting a distinction is usually made between service departments and direct departments. Service departments are those like the power plant, the machine shop, the electrical shop, and others which render services for the departments directly engaged in producing products or services for sale. The direct departments of a plant manufacturing radios are those like the cabinet and the assembly departments. The power plant of such an enterprise is a service department.

The usual procedure in cost accounting in distributing the indirect manufacturing costs to a cost unit is as follows:

1. Such indirect manufacturing costs as space costs—depreciation, insurance, taxes, and repairs—are distributed to the various direct and service departments.
2. The costs of service departments are distributed to direct departments.
3. The indirect manufacturing costs of the direct departments are distributed to products or operations.

The space costs are recorded in such accounts as Depreciation of Buildings, Insurance on Buildings, Taxes on Buildings, and Building Repairs. After the adjusting entries are made, these accounts may be distributed to the direct and service departments or closed to a Buildings Costs account, the balance of which is allocated to the direct and service departments. In addition to the space costs, other costs such as general supervisory costs and laboratory costs may be distributed to the direct and service departments. Ordinarily space costs are allocated to departments on the basis of the floor space used. Other general indirect costs are allocated on some equitable basis.

The costs of the service departments are then distributed to the direct

departments. A considerable part of these costs may have been charged to the direct departments during the period as the services were rendered. For example, the costs of the machine shop in repairing a machine for a direct department would usually be charged to the direct department during the period. Any amounts not so distributed may be distributed at the end of the accounting period on some equitable basis, frequently in proportion to the labor cost of the work done for these departments. Costs such as lighting costs may be distributed on the basis of floor space, and power costs on the basis of the horsepower rating of the machines in the different departments.

Finally, a basis should be determined for allocating the indirect manufacturing costs of the direct departments to the cost unit. Common methods of allocating these costs are:

In proportion to the direct labor cost
In proportion to direct labor hours
On the basis of machine hours used
A combination of these methods.

For each dollar of direct labor cost a certain percentage may be added for the indirect manufacturing costs. If the direct labor cost were ordinarily $100,000 and the indirect manufacturing costs $50,000, these indirect costs would be considered to be 50 per cent of the direct labor cost. Then if the direct labor cost for a particular job is $1,000, the indirect manufacturing costs allocable to that job would be considered to be $500. This method may be reasonably accurate if the wage rates of the workers are relatively the same and if there is not much difference in the costs resulting from the space and equipment used.

A more accurate method is that of basing the indirect manufacturing costs upon the direct labor hours. Indirect manufacturing costs such as taxes, insurance, depreciation of buildings, supervision, and light may vary more in proportion to time than with any other factor. If the indirect manufacturing costs are found to be $1.50 per direct labor hour and if 500 direct labor hours were used for the job, the indirect manufacturing costs would be computed to be $750.

Neither of the preceding methods will be reasonably accurate if some jobs require the use of expensive machines for long periods of time while other jobs require the use of little equipment or inexpensive equipment. For example, the indirect manufacturing costs for a job which required 40 hours of the time of a skilled operator, using a $10,000 machine, should be much greater than for a job which required 40 hours of the time of an unskilled worker. Certain indirect manufacturing costs are closely related to the machine or machines used. These are:

The taxes and insurance on the machine
The depreciation of the machine
The repairs to the machine
The power and supplies used to operate the machine
The space costs.

Because part of the indirect manufacturing costs may be closely connected with the machines used, it is not uncommon for companies using many different types of equipment to distribute some of the indirect manufacturing costs on the basis of direct labor hours, and others on the basis of machine hour rates worked out for the different types of equipment.

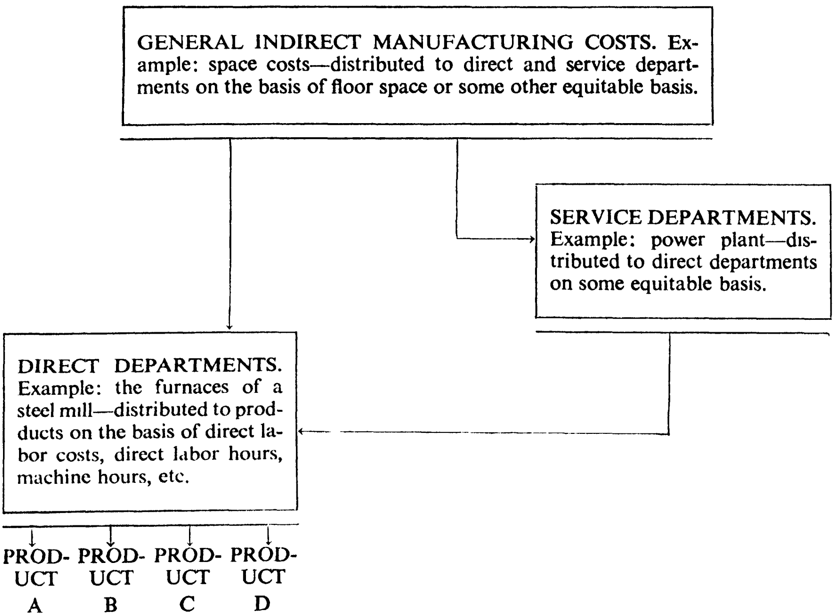
As a final step in the computation of the hourly rates for the distribution of indirect manufacturing costs to different products, a normal rate should be determined. To illustrate, let us assume that the indirect manufacturing costs are to be based on direct labor hours. The estimated indirect manufacturing costs amount to $500,000, and the estimated direct labor hours are 250,000. The indirect manufacturing costs would be considered to be $2.00 an hour. The estimate of 250,000 hours should not be the estimate of the actual hours of operation, but should be based upon the most profitable operating capacity of the enterprise. Then if the enterprise operates at its most profitable capacity, all the indirect manufacturing costs would be distributed. If it operates below that capacity, part of the indirect manufacturing costs would not be distributed and would serve as an index of the cost of idle plant and equipment.

The importance of distributing the indirect manufacturing costs on the basis of the most profitable operating capacity is evident if we consider what happens to the costs when the volume of production changes. Let us assume that the most profitable capacity of a plant is 50,000 chairs, at a direct cost of $3.00 a chair, and that indirect manufacturing costs amount to $1 a chair, making a total cost per chair of $4. If the factory produced only 1,000 chairs, and the indirect manufacturing costs were relatively unchanged, the indirect manufacturing costs per chair would be $50 and the total cost of each chair would be $53, assuming that the direct costs were unchanged. Obviously, the price of the chairs should not be based upon a cost of $53.

If costs for pricing purposes were obtained by distributing the total of all indirect manufacturing costs to the product regardless of the volume of production, an enterprise could get itself into a very serious situation. For example, the following actually occurred. A corporation expanded during the latter years of the first World War, but after the war it was operating at only 40 per cent of capacity. Yet it distributed all of its indirect manufacturing costs to the units produced and based its selling prices upon these costs. The result was that its prices were higher than those of its com-

petitors. In fact, its prices were so high that sales continuously decreased, and the more sales decreased the higher were the costs per unit. A supreme effort by the sales force and fine relations with its customers kept the company operating for several years until the trouble was discovered and corrected. This plant should have been distributing its indirect manufacturing costs upon the basis of its most profitable operating capacity. Similar situations are not unusual.

The procedure followed in distributing the indirect costs may be summarized and illustrated as follows:



The Importance of Segregating the Direct and Indirect Costs. All the important direct costs that apply to a cost unit should be segregated from the indirect costs, otherwise serious errors may be made. This is especially true of certain costs such as the costs of adjusting machines to prepare them for different jobs, called *setup costs.* When the setup costs are high, the cost of manufacturing a small lot might be very high. As the lot is increased in size the setup costs are charged to more and more units. The cost of changing over the plant of the A. O. Smith Co. from the manufacture of one type of automobile frame to another requires the time of several hundred trained men for an entire day. Consequently, if only a few frames were manufactured the cost of each frame would be prohibitive, but when thousands of frames are manufactured, the cost of each frame

is very low. If the setup costs are not considered as direct costs of each lot, these differences in lot costs would not be so evident.

Any other special costs of a particular cost unit should, if important, be segregated as direct costs. Thus, any unusual preparation, cleanup, or inspection costs required for a particular lot should be considered to be direct costs.

The Advantages of Cost Accounting. The chief advantages of a cost accounting system are that it provides:

Information for the control of efficiency
Data for planning
More satisfactory costs of inventories
A better basis for pricing the product.

A cost system provides current information on the cost of materials and labor used on particular lots, operations, or processes. The management can use this information to make comparisons with the previous costs for the same lots, operations, or processes. These comparisons can be made as the jobs are in the process of manufacture; it is not necessary to wait until the jobs are finished. In this way, a current check up of the direct costs may be obtained. Other methods can be used to control the indirect costs.

The cost records also provide data for estimating future costs, and this is useful in making up budgets and also for bidding on jobs.

More satisfactory costs are ordinarily obtained under a cost system than under a noncost system, with the result that more reasonable costs are obtained for the inventories.

Finally, the prices of some products may be based upon costs. As explained on pages 459, more desirable costs for pricing purposes are obtained under a cost system than under a noncost system. In addition, the direct costs are usually very useful in determining the minimum prices to charge and in determining whether or not certain prices are profitable.

A final word of warning is necessary. A cost accounting system is no panacea. There are many types of useful cost information that are not provided by such a system, but require special studies and investigations.

Cost Sheets. To provide for the convenient accumulation and summarization of the costs of a cost unit, some specific record is needed. This is true whether the cost unit be a job lot, a process, or an operation. If the cost unit is a job lot, a cost sheet is made out for each job lot. If the cost unit is a process or an operation, either cost sheets or more detailed records such as special cost ledger accounts may be used as the means of accumulating and summarizing the cost data. When a special cost or manufacturing ledger is used, a control account called Factory Ledger is opened in the general ledger.

An explanation of the use of cost sheets will now be given in order to provide a basis for further discussion.

An example of a cost sheet is given below:

Lot No. ____________ Product ____________

Date Started ____________ Date Completed ____________

Materials		Labor				Summary	
Requisition No.	Amount	Date	Amount	Date	Amount	Materials	$
						Labor	
						Indirect Manufacturing Costs	
						Total	$

COST SHEET

When costs are accumulated by job lots, a cost sheet is made out for each lot that is put into process. These sheets are filed in a *Goods in Process Cost Sheet File.*

Cost sheet forms vary, but each will have space for the identification of the lot, the date when the order was made out, the date of completion, the cost of the raw materials used, the cost of the direct labor, the estimated indirect manufacturing costs, and the total cost of the unit.

The costs of the raw materials and direct labor used are entered periodically, sometimes daily and sometimes for each payroll period, in the columns provided for these costs. The sources of these entries on the cost sheets are usually requisitions made out for the materials used, and labor time cards which are made out for the time the workers put in. These will be explained later. Our purpose here is simply to provide the reader with an idea of the type of summary used.

When the lot is completed, or when it leaves a department, the amounts in the columns for materials and labor are totaled. At that time the estimated amount of the indirect manufacturing costs is entered on the sheet and the raw materials, direct labor, and indirect manufacturing costs are added to obtain the total cost of the lot.

Goods in Process. Goods in Process is the focal account in cost accounting. This account will contain an opening balance which represents the beginning inventory of goods in process. As the raw materials are used, their cost is debited to the Goods In Process account and credited to the Raw Materials account. The direct labor cost is recorded in a Direct Labor account, which is credited as the workers time cards are summarized, the debits being made to the Goods in Process account. The indirect manufacturing costs allocated to the goods finished during the period are debited

to the Goods in Process account and credited to the Indirect Manufacturing Costs account when the job is completed, when it leaves a department, or at the end of the month. At the end of the period an estimate is made of the indirect manufacturing costs that apply to the goods still in process at that time, and this amount is debited to Goods in Process and credited to the Indirect Manufacturing Costs account. The Goods in Process account will then contain debits for the following:

Inventory, goods in process
Raw materials used
Direct labor
Indirect manufacturing costs allocated to finished goods
Indirect manufacturing costs allocated to goods still in the process of manufacture.

When goods are finished, or at the end of each month, a debit is made to the Finished Goods account and a credit made to the Goods in Process account for the total cost of the goods finished during the period.

The balance of the Goods in Process account, at the end of the period, and after the indirect costs applying to the goods in process at that time have been recorded, is the cost of the final inventory of goods in process. After the above entries have been made the Goods in Process account would contain the following debits and credits:

Goods in Process

1942			*1942*		
Jan. 1	Inventory of goods in process	xx	Jan. 31	To Finished Goods	xx
31	Raw materials used	xx			
31	Direct labor	xx			
31	Indirect costs allocated to finished goods	xx			
31	Indirect costs allocated to final inventory of goods in process	xx			

The entries made in the Goods in Process account, with the exception of the opening balance which represents the initial inventory of goods in process and needs no explanation, and the sources of these entries will now be discussed.

Raw Materials Used. Under a cost system the raw materials costs are ordinarily recorded in one account or are closed into one account. To simplify our illustration and explanation, it will be assumed that one account is used for the raw materials costs. That is, an account called Raw Materials would be opened which would contain the cost of the opening inventory of raw materials, the purchases, the transportation in, and the purchase returns and allowances.

When materials were issued for specific jobs, their cost would be

credited to the Raw Materials account and debited to the Goods in Process account by an entry like the following:

Goods in Process	$31,000	
Raw Materials		$31,000
To record requisitions Nos. 1–75		

The Raw Materials account would appear somewhat as follows:

Raw Materials

1942				*1942*		
Jan. 1	Inventory	5,000		Jan. 31	Purchase returns	500
31	Purchases	30,000		31	To Goods in Process	31,000
31	Freight in	2,000				

Special columns in the books of original entry would provide the totals of the purchases, freight in, and purchase returns.

If special accounts are maintained for Inventory, Purchases, Freight In, etc., the balances of these accounts would be closed to the Raw Materials account at the end of each period. During the period, the credits for the raw materials used would be made to the Raw Materials account.

Raw materials are issued only on requisition. A requisition is a form, ordinarily signed by someone in the planning department or the foreman, on which the quantity and description of the materials are listed.

Materials Requisition — Req'n. No. . . . .

Charge. . . . . — Date. . . . ., 19. . . .

Quantity	Description	Price	Amount
	Approved: ____________		

MATERIALS REQUISITION

The requisitions are summarized daily, weekly, or monthly. When there are few requisitions, each may be entered on a summary form. When there are many, they are usually sorted at least twice—once by the jobs to which they are to be charged, and once by the materials accounts to which they are to be credited. If there is only one Raw Materials account in the ledger, this last sorting would not be made. The debits to each lot would be listed on the cost sheets for these lots.

When many raw materials are used, a ledger, containing a card or sheet for each product, is usually used, each card or sheet, called a perpetual inventory card or sheet, has space for the following minimum information:

The name of the article
The maximum and minimum quantities that should be on hand
A column for the date
A column for the number of units received
A column for the number of units issued
A column for the balance on hand.

Article ______

Maximum ______ Minimum ______

Date	Received		Issued		Balance	
	Quantity	Amount	Quantity	Amount	Quantity	Amount
Jan. 1	500	2,500.00				
3			50	250.00	450	2,250.00

PERPETUAL INVENTORY CARD

The quantity on hand is shown in the Received column. To this amount is added each quantity received, and as goods are issued the amounts are deducted to obtain the balance on hand. Both the quantity and the cost of the materials are generally recorded so that a stores clerk can price the goods from his records, but occasionally quantities only are entered. When the costs are recorded the cards constitute a subsidiary ledger controlled by the Raw Materials account of the general ledger, and consequently a list of the card balances should agree with the balance of the Raw Materials control account. Figures for the maximum and minimum quantities that should be on hand at any one time are also usually shown on the cards. These figures should be determined by a careful study of the requirements of the business. The minimum will usually be the amount used in the period of time required to replenish the inventory, plus a margin of safety, and the maximum is usually this minimum plus the economical quantity to order. When the amount on hand drops to the minimum, the purchasing department is notified and a purchase order is placed.

This system will provide the quantity of each material on hand at any one time, except for errors. These quantities must be checked by actual physical count, which is done periodically throughout the year, generally when the quantity on hand is low. If the system of control is good, the errors will be minor. Such errors as may occur are recorded through a Materials Over and Short account which may be considered to be an indirect manufacturing cost account.

Direct Labor. Periodically, as the direct labor time cards are summar-

ized, entries are made to debit Goods in Process and credit Direct Labor as follows:

Goods in Process	xx	
Direct Labor		xx
To record direct labor costs		

During the period, entries are made to the Direct Labor account exactly as explained in Chapter XXIV, that is, when the payroll is recorded Direct Labor and other accounts are debited. At this time entries are also made on the costs sheets from time cards or from the timekeeper's or foremen's records. Either time cards are made out, or timekeepers make up summary sheets which provide the record of the time worked on different jobs, and from these records the data are entered in the Labor column on the cost sheet. The following is an example of a labor time card.

Employee's Name ____________ Date ____________

Clock Number ________

Occupation ____________

Job Number	Description	Hours	Rate	Amount
116	Grinding	8	.70	5.60

LABOR CARD

If costs are kept by operations or processes a cost ledger may be used in which accounts will be opened for the various operations or processes. The explanation of such ledgers belongs in a more advanced course.

The Indirect Manufacturing Costs Recorded in the Goods in Process Account. Two entries are ordinarily made in the Goods in Process account to record the indirect manufacturing costs. One entry is made for the indirect manufacturing costs allocated to the goods finished during the period, and another for the indirect manufacturing costs allocated to the inventory of goods in process at the end of the period.

When goods are finished the cost sheets for each lot finished are removed from the Goods in Process Cost Sheet File and placed in a Finished Goods Cost Sheet File. At that time the indirect manufacturing costs are estimated and entered on each cost sheet. Periodically, usually monthly, the total of these indirect manufacturing costs is recorded by the following journal entry:

Dec. 31	Goods in Process	$7,000	
	Indirect Manufacturing Costs		$7,000
	To record indirect manufacturing costs allocated to cost sheets Nos. 15–20		

The second entry is made at the end of the accounting period to debit Goods in Process with the estimated amount of the indirect manufacturing costs allocated to the final inventory of goods in process. This entry is also a debit to Goods in Process and a credit to the Indirect Manufacturing Costs account, as follows:

Dec. 31	Goods in Process	$3,000	
	Indirect Manufacturing Costs		$3,000
	To record the indirect manufacturing costs allocated to the final inventory of goods in process		

These entries will appear in the Indirect Manufacturing Costs account as illustrated on page 468.

During the period, and at the end of the period when the adjusting entries are made the various accounts for the indirect manufacturing costs are debited in the usual way.

At the end of the accounting period, after the ordinary adjusting entries have been made, the balances of the various indirect manufacturing cost accounts are closed to the Indirect Manufacturing Costs account, often called Manufacturing Overhead, or Manufacturing Burden. To illustrate, let us assume that the following were the only accounts for the indirect costs.

Supervision		Sundry Indirect Labor		Depreciation of Buildings	
3,400		1,800		1,200	

Depreciation of Machinery and Equipment		Sundry Indirect Factory Costs	
1,400		3,600	

At the end of the period these accounts would be closed by a journal entry as follows:

Indirect Manufacturing Costs	$11,400	
Supervision		$3,400
Sundry Indirect Labor		1,800
Depreciation of Buildings		1,200
Depreciation of Machinery and Equipment		1,400
Sundry Indirect Factory Costs		3,600
To close indirect manufacturing cost accounts to Indirect Manufacturing Costs		

This entry would result in a debit to the Indirect Manufacturing Costs account for the total of the indirect costs.

At the end of the period, the Indirect Manufacturing Costs account will have the following debits and credits:

Indirect Manufacturing Costs

1942			*1942*		
Dec. 31	Actual indirect manufacturing costs . . .	11,400	Dec. xx	Indirect manufacturing costs allocated to finished goods	7,000
			31	Indirect manufacturing costs allocated to goods in process inventory, Dec. 31	3,000

The amount on the debit side of this account is the total of all the actual indirect manufacturing costs, that is, the total of the indirect labor, depreciation, light, heat, power, factory repairs, factory supplies used, etc. The amounts on the credit side of the above account are the amounts allocated to the finished goods and to the final inventory of goods in process.

The balance remaining in the account is called *underdistributed burden or overdistributed burden.* Cost accountants dispose of the underdistributed burden by crediting the Indirect Manufacturing Costs account and redistributing this burden to the Goods in Process, the Finished Goods, and the Cost of Goods Sold, or by debiting the total to either the Cost of Goods Sold account or to the Profit and Loss Summary account. Both the latter methods are simpler than the first, but the first method may give more accurate inventory costs. If the first method is followed, the underdistributed balance may be added as a separate amount to each final inventory and to the cost of goods sold on the profit and loss statement. If the indirect manufacturing costs are overdistributed, the account is closed and credits are made to the Cost of Goods Sold account and to the Profit and Loss Summary account, or the balance is redistributed to the Goods in Process, Finished Goods Inventory, and Cost of Goods Sold accounts.

Now let us refer to the entry allocating indirect manufacturing costs to the final inventory of goods in process, for this entry requires further consideration. As already explained, this entry is made at the end of the period to debit Goods in Process and credit the Indirect Manufacturing Costs account with the estimated amount of the indirect manufacturing costs that applies to the goods in process. This is done so that the balance of the Goods in Process account will represent the cost of the goods in process inventory at the end of the period. Prior to this entry, the balance of the Goods in Process account would be made up of the costs of the raw materials, and the direct labor.

However, when the goods in process at the end of the period are finished during the next period, an entry is made to debit Goods in Process and credit Indirect Manufacturing Costs for the amount of the indirect manufacturing costs allocated to the goods finished. If part of the goods now

finished was in process at the end of the preceding period, an entry was made at that time to record the indirect manufacturing costs. Consequently there is danger of partial duplication in recording the indirect manufacturing costs. This duplication may be avoided in either of two ways: (1) by recording only that part of the indirect manufacturing costs which applies to the current period, or (2) by making a reversing entry at the beginning of the period to debit Indirect Manufacturing Costs and credit Goods in Process. This latter method is preferable.

To illustrate let us consider the following facts: On December 31, 1942, an entry was made to debit Goods in Process $5,600 and credit Indirect Manufacturing Costs $5,600 for the indirect manufacturing costs allocated to the final inventory of goods in process. On January 1, 1943, an entry would be made to reverse this entry. That is, an entry would be made to debit Indirect Manufacturing Costs $5,600 and to credit Goods in Process $5,600. Then when the entry is made for the indirect costs allocated to the goods finished during this period the total of the indirect manufacturing costs allocated to these goods may be recorded.

Finished Goods. Periodically, and usually at the end of the month, the total cost of the goods finished is obtained and entered as follows:

Dec. 31	Finished Goods	xxx	
	Goods in Process		xxx
	To record cost of goods finished during December		

This entry is for the cost of the raw materials used, the direct labor, and the indirect manufacturing costs allocated to these lots. It removes from the Goods in Process account the cost of the goods finished during the period, leaving only costs of the goods still in process.

Summary of Cost Entries. In the tabulation on the following page the common cost entries discussed in the preceding pages are summarized.

Illustration. A short illustration of cost accounting entries as made in the ledger accounts will now be given. For the sake of brevity, only two indirect manufacturing cost accounts are used: Indirect Labor and Sundry Factory Costs. The following are the inventories on January 1 and the transactions for January.

1. Inventory, raw materials, Jan. 1	$ 10,000
2. Inventory, goods in process, Jan. 1	8,000
3. Inventory, finished goods, Jan. 1	12,000
4. Raw materials, purchased for cash	40,000
5. Freight in, raw materials, paid in cash	5,000
6. Direct labor, paid in cash	60,000
7. Indirect labor, paid in cash	6,000
8. Sundry factory costs, paid in cash	7,700
9. Raw materials used	50,000
10. Goods finished during the period	105,000
11. Indirect manufacturing costs allocated to finished goods	10,000
12. Cost of goods sold	90,000
13. Indirect manufacturing costs allocated to goods in process inventory	2,000

Summary of Basic Entries Made in Job Lot Cost Accounting

Source of Entry	*Entries on Cost Sheets*	*Entries on General Books*
Materials Requisitions	Requisitions are summarized and costs are entered on the cost sheets	A journal entry is made to debit Goods in Process and credit Raw Materials
Time cards or timekeeper's records	Time cards are summarized and direct labor costs are entered on the cost sheets	When the payroll entries are made the direct labor cost is recorded. When the labor cards are summarized journal entries are made to debit Goods in Process and credit Direct Labor
Cost sheets for goods finished	The indirect manufacturing costs are estimated and entered on the cost sheets	Two journal entries are made: one to debit Goods in Process and credit Indirect Manufacturing Costs for the amount of the allocated indidirect manufacturing costs, another to debit Finished Goods and credit Goods in Process for the total of the costs entered on the cost sheets
Cost sheets for goods in process		At the end of the period an estimate is made of the indirect manufacturing costs that apply to the goods still in process. A journal entry is made to debit Goods in Process and to credit Indirect Manufacturing Costs. This entry may be reversed at the beginning of the next period
Sales invoices and cost records		When sales are made two entries are made: one to debit Accounts Receivable, or Cash, and to credit Sales, another to debit Cost of Goods Sold and credit Finished Goods
Credit memos for sales returns and allowances		Two entries are made: one to debit Sales Returns and Allowances and credit Accounts Receivable, another to debit Finished Goods and credit Cost of Goods Sold
Indirect manufacturing cost accounts		A journal entry is made to debit the account Indirect Manufacturing Costs and credit the individual indirect manufacturing cost accounts
Balance of the Indirect Manufacturing Costs account (over or underdistributed overhead)		An entry is made to distribute the balance of the Indirect Manufacturing Costs account to Goods in Process, Finished Goods, and to Cost of Goods Sold. Or, the balance is closed either to Cost of Goods Sold account or to the Profit and Loss Summary account

The entries are shown in the ledger accounts on page 471, the entries to the Cash account being omitted, and the balance of the Indirect Manufacturing Costs account not being closed. This balance of $1,700 would

Raw Materials

Jan. 1	Inventory	10,000	Jan. 31	R. M. Used	50,000
31	Purch.	40,000			
31	Frt. In	5,000			

Direct Labor

Jan. 31	Payroll	60,000	Jan. 31	To Goods in Process	60,000

Sundry Factory Costs

Jan. 31		7,700	Jan. 31	To Indirect Manufacturing Costs	7,700

Indirect Labor

Jan. 31	Payroll	6,000	Jan. 31	To Indirect Manufacturing Costs	6,000

Indirect Manufacturing Costs

Jan. 31		13,700	Jan. xx	To Goods in Process	10,000
			31	To Goods in Process	2,000

Goods in Process

Jan. 1	Inventory	8,000	Jan. 31	To Finished Goods	105,000
xx	Ind. Manuf'g Costs	10,000			
31	R. M. Used	50,000			
31	Direct Labor	60,000			
31	Ind. Manuf'g Costs	2,000			

Finished Goods

Jan. 1	Inventory	12,000	Jan. 31	To cost of goods sold	90,000
31	Goods Manuf'd	105,000			

Cost of Goods Sold

Jan. 31		90,000			

be closed direct to the Profit and Loss Summary, or to Cost of Goods Sold, or it would be distributed to the Inventory of Goods in Process, Inventory of Finished Goods, and Cost of Goods Sold.

Trends in Cost Accounting. Job lot cost accounting was discussed in this chapter because it gives the student a general idea of cost accounting problems and procedures. Job lot cost accounting may require a great deal of clerical work and consequently may be quite expensive. For this reason, and because satisfactory costs may be obtained in other ways, many enterprises that could account for the costs of job lots do not use a job lot cost system. They use variations of the job lot system, process systems, or standard cost systems.

A system that is a variation of the job lot system is the class system. Instead of accounting for job lots, cost records are kept by classes of products. The costs of closely related products are recorded together. For example, a cost sheet may be made out for a particular class of foundry castings, and the costs of all the castings of this class would be kept on this cost sheet, the costs of the different types of castings in this class being determined by weight or by some other differentiating characteristic.

Process and operation cost accounting is not much different from job lot cost accounting. Costs are kept for processes or operations; and unit costs are obtained by dividing the costs of the processed or operations by the number of units going through these processes or operations. A cost sheet or ledger account is opened for each operation or process, but if there are a great many operations or processes, accounts may be opened for these in a factory ledger.

Class, process, and operation cost accounting may provide satisfactory data at a relatively low cost. One might say that if there is any trend in cost accounting it is toward the systems that are relatively inexpensive to operate.

One of the very best cost systems is a system of predetermined or standard costs. Under such a system, standard costs are determined for labor and materials, and possibly for overhead, that is, the costs of labor and materials for different products are predetermined by an actual study of production. These are considered to be the proper or standard costs for the job or product. If the actual costs are greater than the standards the reason for the excess is ascertained. Many companies use standard costs to control labor and materials, and control the indirect manufacturing costs by classifying them into such groups as fixed and variable. The relationship of the variable costs to direct labor costs, direct labor hours, machine hours, or the quantity of production is determined. Then the variable indirect costs are expected to be controlled as the chosen index varies. For example, if the variable indirect costs are "tied" to the direct

labor costs for control purposes, the indirect costs are expected to vary as the direct labor cost varies. Standard cost systems are used by many of the better managed companies. They are not widely used because of the expense of setting the standards for each job or product.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Define cost accounting.

2. Explain briefly two different types of cost accounting.

3. Distinguish cost accounting from noncost manufacturing accounting.

4. What information would you expect to obtain from a cost accounting system that you would not obtain from noncost manufacturing accounting?

5. Why might the management of a manufacturing enterprise have better control over efficiency under a cost accounting system than under a noncost system?

6. What is the meaning of the term *direct costs* as it is used in cost accounting?

7. Is depreciation a direct or an indirect cost?

8. Is the cost of materials always a direct cost?

9. Why should a distinction be made between direct and indirect costs?

10. A building was purchased to serve as a factory in which kitchen tables were to be manufactured. Name all the costs you can that would be incurred in manufacturing the tables.

11. Work was started on a job lot of 50 tables. How would you determine the cost of this lot?

12. What is a cost sheet?

13. Explain clearly each entry in the following Goods in Process account:

Goods in Process

1942			*1942*		
Jan. 1	Inventory	10,000	Jan. 1	Indirect manufact'g costs in goods in process . .	3,000
31	Indirect manufact'g costs, finished goods . . .	25,000	31	To finished goods . .	80,000
31	Raw materials used . .	30,000			
31	Direct labor	33,000			
31	Indirect costs, goods in process	6,000			

14. What is a materials requisition?

15. Are materials requisitions used as a basis for any entries?

16. What is a labor time card?

17. Are labor time cards used as the basis of any entries?

18. What entries are made when the cost sheets for jobs that were finished are removed from the Goods in Process Cost Sheets File?

19. Explain the entries in the following Indirect Manufacturing Costs account:

Indirect Manufacturing Costs

1942			*1942*		
Jan. 31	Actual	18,000	Jan. xx	Allocated to finished goods	12,000
			31	Allocated to goods in process	4,500

20. How would you dispose of the balance of the Indirect Manufacturing Costs account?

21. The cost of the goods sold during the period amounts to $150,000. What entry would you make to record this cost?

22. Goods which cost $50 and were sold on credit for $75 were returned. What entries would you make to record this transaction?

23. What is a service department?

24. How are the costs of service departments distributed to production departments?

25. Give three methods of distributing departmental indirect costs to a cost unit such as a job lot.

26. Under what circumstances might each of the three methods you listed in question 25 give a reasonably accurate distribution of overhead?

27. The economical operating capacity of department A was considered to be 250,000 direct labor hours. The indirect manufacturing costs for the period amounted to $750,000. What would the indirect manufacturing cost be per direct labor hour?

28. How might you obtain evidence of the cost of idle plant and equipment?

29. Discuss the advantages of a system of cost accounting.

30. What are standard costs?

LABORATORY PROBLEMS

1. (a) Open T accounts with the following balances:

Raw Materials, $8,000
Goods in Process, $4,000
Finished Goods, $6,000

Open what additional accounts you may need and enter the following data:

Raw materials purchased for cash, $20,000
Direct labor paid, $30,000
Sundry indirect manufacturing costs (including rent paid), $8,000
Raw materials used during the period, $22,000
Cost of goods finished during the period (including indirect manufacturing costs of $7,000) $51,000
Sales (all for cash), $65,000
Cost of goods sold, $53,000.

(b) The indirect costs to be allocated to the final inventory of goods in process were estimated to be $800. Make the entry to record these costs. Determine the cost of the final inventory of goods in process.

(c) How would you dispose of the balance of the Indirect Manufacturing Costs account?

2. Open T accounts and record the balances of the following accounts taken after the adjusting entries were made on June 30:

Supervision, $6,000
Sundry Indirect Labor, $2,000
Factory Repairs, $2,200
Factory Heat, Light, and Power, $3,600
Factory Property Taxes and Insurance, $1,600
Factory Payroll Taxes and Workmen's Compensation Insurance, $1,200

Factory Supplies Used, $1,400
Factory Depreciation, $3,000

Make a journal entry to close these accounts to the account Indirect Manufacturing Costs. Post this entry to T accounts.

The indirect manufacturing costs allocated to the finished goods amounted to $15,000. Make the journal entry to record this amount, and post to the T accounts.

At the end of the period the total of the indirect manufacturing costs allocated to the goods in process was estimated to be $4,000. Make the journal entry to record this amount and post to T accounts.

3. On December 31, after the books were closed, the balance of the Goods in Process account was $15,000. This amount was made up of materials of $8,000, direct labor of $4,000, and indirect manufacturing costs of $3,000. On January 8, lots were finished at a cost of $25,000, made up as follows:

Materials, $13,000
Direct labor, $7,000
Indirect manufacturing costs, $5,000

Make the journal entry or entries that would be made to record the indirect manufacturing costs on these lots finished on January 8.

4. Open T accounts and enter the following balances as of January 1:

Raw Materials, $15,000
Finished Goods, $10,000
Factory Supplies, $2,000
Vouchers Payable, $6,000

The following were the totals of the columns in the voucher register on January 31:

Debits: Raw Materials Purchases, $60,000
Freight In on Raw Materials, $5,000
Direct Labor, $45,000
Indirect Labor, $5,000
Factory Power, $2,400
Sundry Indirect Manufacturing Costs, $3,000

Credits: Vouchers Payable, $120,400.

(a) You are to post the data from the voucher register to the ledger accounts and make journal entries to record the following data and then post from the journal to the ledger accounts, opening any additional accounts you may need.

The total of the summary of raw materials requisitions for January was $45,000.
The data on the summary of the cost sheets for goods finished during January were:
Raw materials, $35,000
Direct labor, $40,000
Indirect manufacturing costs (30 per cent of the direct labor), $12,000
The total of the sales on credit for the period was $120,000; the cost of the goods sold was $86,000.
The accrued direct labor on January 31 was $3,000.
The accrued indirect labor on January 31 was $500
The total of the accrued factory taxes on January 31 was $300.
The depreciation of factory buildings and equipment was $2,000.
The factory supplies used totaled $1,400.

(b) Make journal entries to close the balance of the Direct Labor account to the Goods in Process account.

(c) Make the journal entry to record the indirect manufacturing costs allocated to the goods in process on January 31. The amount is 30 per cent of the direct labor of $8,000.

(d) How would you dispose of the balance of the Indirect Manufacturing Costs account?

5. (a) The following balance sheet accounts of the Union Manufacturing Co. on January 1, 1942, are to be entered in the ledger accounts:

Cash		$ 49,284.40
Accounts Receivable	$16,205.10	
Reserve for Doubtful Accounts	800.00	15,405.10
Raw Materials		7,545.60
Goods in Process		9,266.00
Finished Goods		12,319.10
Factory Supplies		820.60
Prepaid General and Administrative Expenses		380.90
Plant and Equipment	$86,925.40	
Reserve for Depreciation of Plant and Equipment	36,820.10	50,105.30
		$145,127.00
Accounts Payable		$ 20,350.00
Capital Stock		100,000.00
Surplus		24,777.00
		$145,127.00

The total of the cost sheets for the lots of goods in process, $9,266.00, was made up as follows:

Cost Sheet Number	*Raw Materials*	*Direct Labor*	*Indirect Costs*
15	$ 520.00	$ 600.00	$ 240.00
16	670.00	850.00	340.00
17	430.00	760.00	304.00
18	890.00	750.00	300.00
19	560.00	650.00	260.00
20	330.00	580.00	232.00
	$3,400.00	$4,190.00	$1,676.00

You will need the following accounts: Cash, Accounts Receivable, Reserve for Doubtful Accounts, Raw Materials, Finished Goods, Factory Supplies, Prepaid Expenses, Plant and Equipment, Reserve for Depreciation of Plant and Equipment, Vouchers Payable, Payroll, Capital Stock, Surplus, Sales, Sales Returns and Allowances, Cost of Goods Sold, Goods in Process, Direct Labor, Supervision, Other Indirect Labor, Factory Supplies Used, Heat and Light and Power, Repairs to Factory Buildings and Equipment, Depreciation of Plant and Equipment, Indirect Manufacturing Costs, Selling Expenses, General and Administrative Expenses, Profit and Loss Summary.

The following are the data in the special journals:

Voucher register:
Totals of the debit columns
Direct Labor, $46,918.10

Supervision, $4,320.40
Other Indirect Labor, $3,200.60
Factory Supplies, $3,595.20
Heat and Light and Power, $7,295.50
Factory Repairs, $1,550.40
Selling Expenses, $8,420.10
General and Administrative Expenses, $3,265.40
Raw Materials Purchases, $35,960.20
Total of the credit columns
Vouchers Payable, $114,525.90
Cash disbursements journal:
Dr. Vouchers Payable, $113,919.60
Cr. Cash, $113,919.60
Cash receipts journal:
Dr. Cash, $74,240.70
Cr. Accounts Receivable, $74,240.70
Sales Journal, total credit sales, $105,250.10

Make journal entries to record the following:

An entry to reverse the indirect costs of $1,676.00 recorded on December 31.
The total of the summary of the cost of goods sold during January, $88,923.40.
The total of the requisitions for raw materials used during January, $34,945.40.
The total of the requisitions for factory supplies used, $3,220.60.
The total of the credit memos issued for sales returns and allowances, $1,215.00; the goods cost $895.10.
The data on the summary of the cost sheets for goods finished during January:

Raw materials, $33,519.10
Direct labor, $44,250,50
Indirect manufacturing costs (40 per cent of direct labor), $17,700.20
Total, $95,469.80

The data on the cost sheets for goods in process on January 31:

Raw materials, $4,826.30
Direct labor, $7,957.60
(Indirect manufacturing costs, 40 per cent of the direct labor)

Depreciation of plant and equipment, $1,200.00
Prepaid general and administrative expenses, $210.40
Accrued Payroll:

Direct labor, $1,100.00
Supervision, $450.00
Other indirect labor, $325.00

Bad debts, 0.5 per cent of sales (debit general and administrative expenses).

(b) Post from the special journals and the general journal to the ledger accounts.

(c) Take a trial balance.

(d) Make journal entries to close all cost, revenue, and expense accounts, and the Profit and Loss Summary, closing the balance of the Indirect Manufacturing Costs account to the Profit and Loss Summary.

(e) Make up a balance sheet and a statement of profit and loss.

CHAPTER XXVII. OTHER COST CONCEPTS APPLIED TO MANUFACTURING PROBLEMS

The Limitations of Cost Accounting. Cost accounting provides information that may be used in various ways to assist in the successful operation of an enterprise. On the other hand, it has its limitations. Management needs so many different types of cost information that no one concept of costs, or no single statement of costs, will be sufficient, much analytical work and research being necessary to provide the cost data needed.

The costs determined in cost accounting are average costs. Even if the average costs are obtained with reasonable accuracy, this information alone would not enable management to meet successfully its responsibilities to the owners, to labor, and to the consumer. In order to make fair profits, charge fair prices, pay fair wages, and effectively use its materials, labor, plant, and equipment, the executives of the manufacturing enterprise must use additional concepts of costs.

Other Cost Concepts Used in Accounting. The reader is already familiar with the following different cost concepts:

Fixed and variable costs
Direct and indirect costs
Increment and decrement costs
Out-of-pocket costs
Sunk costs.

The fixed and variable costs, and direct and indirect costs of a manufacturing enterprise have been discussed sufficiently in the preceding chapters. However, before discussing the uses of these various concepts we shall briefly discuss increment and decrement costs, etc., in manufacturing.

Increment and Decrement Costs in Manufacturing. It has been stated that increment costs are added costs, the costs of an additional unit. The unit may be a department, a product, a group of customers, a territory, a certain volume of sales, or some other unit.

If a new metal toy is to be manufactured in the metal toy department and no additional space or equipment is required, the added costs would probably be:

The cost of materials
The cost of direct labor

Possibly some additional depreciation of the machines
Possibly some additional costs such as the cost of indirect labor, power, insurance, and taxes, and certain costs arising from the need of additional working capital.

Ordinarily the cost of the materials used and the direct labor would be added costs, although this is not always true. For instance, if the materials used were formerly wasted, this would not be an added cost. The same might be true of labor in certain rare instances when the idle time of labor was used to produce products.

Depreciation of equipment might be increased by the addition of a product. This would be true when additional space or machines were necessary, and when "use depreciation" is the controlling factor. If the original machines were used and the production of the new product would shorten the life of these machines, this additional depreciation would be an increment cost. But if the time factor were more important in depreciation than the "use factor," depreciation would not necessarily be an increment cost. This would be true when obsolescence, inadequacy, or the action of the elements results in greater depreciation than that caused by the use of the equipment. Ordinarily the depreciation of a building used to house machinery and equipment would be affected little by the addition of a product.

The cost of indirect labor might be increased by the addition of a new product, since additional employees might be required for transportation, supervision, planning, or inspection. In other instances no additional indirect labor would be required.

Ordinarily power costs will be increased by the addition of a product, but there are instances, especially when the enterprise produces its own power, when these costs will not increase. This may be true within certain ranges of production. There may be, at certain stages of production, a range of production within which there will be little or no increase in power costs with a limited increase in production. However, power costs will usually vary rather closely with production.

Taxes and insurance will usually increase slightly with the addition of new products, since new products usually result in higher inventories, and higher inventories result in higher personal property taxes and higher insurance on the merchandise. On the other hand the taxes and insurance on real property may not change.

Additional inventories may require additional funds; consequently interest may be increased. But here again there are exceptions; trade-creditors may supply the additional inventories at no interest cost.

Other costs may be increased; but it will be obvious to the reader that the facts can be ascertained in any particular case only by research.

The same procedure would be followed if the added unit is an additional

volume of sales. The costs that are added to obtain this additional volume are increment costs.

Increment costs relate to a particular situation at a particular time. At one volume of production added units might require additional supervisors and additional power costs, whereas at another volume of production, units might be added without any effect on these costs. Then again the addition of some units might increase certain costs, but these costs might be increased very little by the addition of still more units. That is, certain costs may increase in steps. For example, an increase in production might require an additional supervisor, but that supervisor might be able to supervise further increases in production. Or, an additional boiler might have to be used to supply power. This would require certain fixed costs after which the addition of a considerable number of units might increase costs only slightly.

The term *decrement costs* is used here to refer to those costs which will be eliminated if some unit such as a department, a product, a territory, a group of customers, or a volume of business is eliminated. As already explained, the decrement costs may not be the same as the increment costs. When a product is added new machines may be purchased, the depreciation on which is an increment cost; but if the product is eliminated it might not be possible to eliminate part of the depreciation cost of the machines.

Out-of-Pocket Costs. The out-of-pocket costs of a manufacturing enterprise are those costs which require a cash outlay within a short time. The costs of raw materials and labor are generally out-of-pocket costs. Other common out-of-pocket costs are taxes, insurance, repairs, salaries, materials, and supplies used. When an enterprise purchases its power, the cost of power is also an out-of-pocket cost, but when an enterprise produces its own power, only part of the cost is an out-of-pocket cost.

Depreciation is the most common cost which is not an out-of-pocket cost. Depletion also is not an out-of-pocket cost when the enterprise owns the natural resources it uses, but when the enterprise must purchase these resources, the cost becomes an out-of-pocket cost at that time. After the purchase has been made, the cost is no longer an out-of-pocket cost.

Sunk Costs. The term *sunk costs* is applied to such costs as the cost of land, buildings, and equipment, which the enterprise must hold either because they can be sold only at a great sacrifice or because they are needed for the operations. If a special building is constructed to house a power plant, the cost is in all probability a "sunk" cost, because the cost could not be recovered if the power plant were abandoned, and the building could not be used ecomically for any other purpose.

The Application of Other Cost Concepts. In the following sections a few illustrations will be given of the use of these other cost concepts. The illustrations are given not to show the application of a particular cost concept but rather to present common problems that confront management and to illustrate how costs may be used to aid in the solution of these problems. Problems will be discussed here that arise in determining:

Pricing policies
The cost of an additional volume of business
Whether or not products, departments, territories, or customers should be eliminated
Whether equipment should be replaced
Whether to make or buy a product.

Pricing. Many industrial enterprises ordinarily have some control over their prices. This is true for several reasons. Most products are differentiated in some way from those of competitors; the quality may vary somewhat, or, what may be even more important, the services received may be different. Buyers purchase services when they purchase products, and they may pay more for a product because of the good service that the supplier renders. Purchasing agents when selecting a source of supply are interested in the reliability of the supplier, the speed of deliveries, the advice they may receive from the supplier, etc. Obviously, very few enterprises sell exactly the same goods and services, and this alone enables the manufacturer to exercise a limited control over his prices. In addition, manufacturers may increase or decrease the supply of their product in order to affect prices. Thus, if they believe prices are too low they may curtail the supply.

The objective of most enterprises is to obtain the price that will contribute the greatest amount to net profits, and this might in some instances be obtained by a high price, and in others by a low price. When the possible demand for a product is small, the greatest profits may be obtained by a high price, and when the possible demand for a product is great, the greatest profits may be obtained by the sale of a large volume at a low price.

Management will attempt to set the prices of its products in such a way that the greatest net profits will be obtained from the total sales, not from each unit sold. *Assuming that the fixed costs remain relatively the same, the greatest net profit will be obtained by the prices that will yield the greatest margin over the direct costs.* To illustrate, let us consider the pricing of a radio, the direct costs of which are $20. The following is a simplified schedule of sales, direct costs, and the margin over the direct costs:

Quantity	*Sales Price per Unit*	*Sales*	*Direct Costs*	*Margin over Direct Costs*
2,000	$40.00	$ 80,000	$ 40,000	$40,000
7,000	30.00	210,000	140,000	70,000
7,500	27.50	206,250	150,000	56,250
8,000	25.00	200,000	160,000	40,000
11,000	22.50	247,500	220,000	27,500

The price that will yield the greatest margin over the direct costs is $30 per radio. At this price the margin provided to cover the fixed costs and provide profit is $70,000. The margin on each radio sold at a price of $30 is $10 over the direct costs, as compared with $20 on each radio, when the price is $40; but because of the proportionately greater number of radios sold at $30 per radio the total margin is considerably greater.

In the above computations, the fact that the direct costs per unit may change with changes in the volume of production was disregarded. The cost of materials may be lower per unit as larger quantities are purchased, and labor may become more efficient when larger lots are manufactured. Nevertheless, the fundamental principle is the same. The price would be set where the sales of the product would yield the greatest excess over the direct costs and whatever increase there might be in the indirect costs.

When it is possible to sell a product in two different markets, a greater margin over the direct costs might be obtained by selling the product at different prices in the two markets. If, in addition to the sale of 7,000 radios at $30 per radio, 2,000 radios could be sold in another market for $40 per radio, the excess of the dollar amount of sales over the direct costs would be $110,000. Prior to the Robinson-Patman Act many companies sold virtually the same product in different markets at different prices; tire producers sold tires at one price through their own dealers and similar tires through mail-order companies at a lower price. The Robinson-Patman Act has made such practices illegal unless the sales actually result in lower production costs, delivery costs, or selling costs. This act may have curtailed such sales, but the fact remains that it is often quite easy to sell slightly different products at different prices in two or more different markets.

When an enterprise manufactures more than one product pricing becomes more complicated, as it then becomes a problem of finding the combination of prices and volume that will yield the greatest excess of revenue over the direct costs. To illustrate, let us consider an enterprise which produces two noncompetitive machines, A and B. The direct costs of product A are $10 per machine and of product B $15 per machine. The following are the schedules showing the quantities of each that may be sold, the costs, and margin:

PRODUCT A

Quantity	Price	Sales Amount	Direct Costs	Margin over Direct Costs
5,000	$20	$100,000	$50,000	$50,000
8,000	15	120,000	80,000	40,000
12,000	12	144,000	120,000	24,000

PRODUCT B

Quantity	Price	Sales Amount	Direct Costs	Margin over Direct Costs
3,000	$25	$ 75,000	$ 45,000	$30,000
6,000	22	132,000	90,000	42,000
8,000	18	144,000	120,000	24,000

If this company could produce a maximum of 15,000 machines each year, its most profitable combination would be obtained when product A was priced at $20 per unit and product B at $22 per unit (disregarding possible changes in productive efficiency which might arise with different combinations of products). The margin over the direct costs is $50,000 plus $42,000, or $92,000 at these prices.

These illustrations are oversimplified as the complications met with in actual practice would ordinarily be much greater, but the method of approach to such problems is the same.

Some business enterprises set their prices in this way. However, the great majority do not know enough about the characteristics of the demand for their products to be able to do so.

In Chapter XXVI it was explained that some enterprises determine their costs for pricing purposes by adding a standard amount of overhead to the direct costs regardless of the volume of production. For example, if at economical production capacity the overhead amounted to $8 per unit, this amount would be added to the direct costs to obtain the cost for pricing purposes.

This policy is much better than those followed by many enterprises, but it should not be blindly followed or be allowed to result in an inflexible price structure. A flexible price structure like that already explained in this chapter is ordinarily desirable, especially when the demand for the product is elastic, in which case a lower price may so increase volume that profits may be higher.

On the other hand, when the demand is inelastic, that is, when it does not change much with price changes, a decrease in prices would simply result in decreases in competitors' prices. This is what happens in the West Coast lumber industry when the demand for lumber drops. Some producers immediately cut prices. This does not increase total demand; it simply results in competition between producers for the existing business.

One producer takes business away from another, and in the mad scramble for the existing business prices drop rapidly.

Costs of an Additional Volume of Business. The two customary computations relating to an additional volume of business are:

To determine the effect of an additional volume of business upon the costs and profits.

To determine how much might be expended to obtain an additional volume of business.

The problem in each case is that of determining the added costs necessitated by the additional volume of business. In such computations the proportion of the fixed costs to the total cost is an important factor. When an enterprise has high total fixed costs and is operating at low capacity the costs of an additional volume of business will be relatively low, but when an enterprise has low total fixed costs and is operating at low capacity the cost of an additional volume of business will be relatively higher than for an enterprise with high fixed costs. Let us consider three companies A, B, and C, each of which makes profits of $200,000 when operating at 66 2/3 per cent of capacity, or when the sales of each are $1,000,000.

	A	*Per Cent of Sales*	*B*	*Per Cent of Sales*	*C*	*Per Cent of Sales*
Sales	$1,000,000	100	$1,000,000	100	$1,000,000	100
Fixed Expenses . .	600,000	60	200,000	20	100,000	10
	$ 400,000	40	$ 800,000	80	$ 900,000	90
Variable Expenses .	200,000	20	600,000	60	700,000	70
Operating Profit .	$ 200,000	20	$ 200,000	20	$ 200,000	20

If the volume of business increased 50 per cent to $1,500,000, the profits of Company A with fixed costs equal to 60 per cent of sales should increase the greatest amount. Let us assume that this increase occurred, that the variable expense increased in proportion to sales, and that the fixed expenses increased 20 per cent. The results would be as follows:

	A	*B*	*C*
Sales	$1,500,000	$1,500,000	$1,500,000
Fixed Expenses	720,000	240,000	120,000
	$ 780,000	$1,260,000	$1,380,000
Variable Expenses	300,000	900,000	1,050,000
Operating Profit	$ 480,000	$ 360,000	$ 330,000

The operating profit of company A increased from $200,000 to $480,000 as compared with increases to $360,000 for B, and $330,000 for C. The added volume of $500,000 increased the profit of A, $280,000, the profit of B, $160,000, and the profit of C, $130,000. The added costs to A, that is, the increment costs of this volume of business at this stage of production, were $220,000, but the added revenue was $500,000.

When an additional volume of business is to be obtained, the important costs are not the average or the unit costs but the increment costs. In order to illustrate the computation to determine how much can be expended to obtain a certain volume of business, let us consider the following statement of profit and loss:

Sales		$750,000
Cost of Goods Sold:		
Materials and Labor	$500,000	
Overhead	110,000	610,000
Gross Margin		$140,000
Selling Expenses	$ 75,000	
Other Expenses	45,000	120,000
Operating Profit		$ 20,000

A market survey indicated that sales could be increased approximately 30 per cent by increasing the selling and advertising expenditures. The management wished to know how much it could expend in increased sales and advertising expenses in order to obtain this additional volume. The manufacturing overhead would remain approximately the same, as would the other expenses. The remainder of the costs would increase approximately in proportion to sales. If sales increased 30 per cent and the costs changed as stated, the maximum amount that could be expended without reducing the operating profit of $20,000 can be obtained by making the deductions from sales as follows:

Sales		$975,000
Materials and Labor	$650,000	
Factory Overhead	110,000	
Other Expenses	45,000	
Selling Expenses	75,000	
Operating Profit	20,000	900,000
Maximum to be expended		$ 75,000

In making the computation, the materials and labor were increased in proportion to sales, and the fixed expenses and the original operating profit were stated at the original figures. When the total of these deductions was made from sales, a balance of $75,000 was obtained. If the additional sales can be obtained by an expenditure of any amount less than $75,000 the operating profit will be increased. If expenditures of $30,000 for advertising and $15,000 for salesmen's commissions would bring this additional volume of business, the profits would be increased from $20,000 to $50,000. The profits would then be 2½ times the previous profits. But the additional volume of business would probably require more working capital, and if so, its cost should not be overlooked in making the computation.

Elimination of Products, Departments, Territories, Customers. When the elimination of a line, a department, a territory, or a group of customers is

considered by a manufacturing enterprise, the cost information needed is not the average costs, determined by cost accounting methods, but the decrement costs—the costs that will be reduced or eliminated.

The proper procedure to follow is similar to that explained in Chapter XXIII except that the manufacturing costs must also be considered. An estimate is made of the amount the costs would be reduced by the elimination of that product, and this amount is deducted from the revenue obtained from that product. The difference represents the contribution of the product to the profits of the company. If a product is eliminated, the cost of the raw materials and direct labor will in all probability be eliminated. Power, light, heat, repairs, supervision, depreciation, etc., may be reduced somewhat, but the amount of this reduction, if any, depends upon the particular circumstances. Selling expenses, office expenses, and other expenses may be affected little or by substantial amounts.

To illustrate, let us consider the following case. The I. B. James Manufacturing Co., which manufactured two products, was considering the elimination of one product which we will designate Product A. The following was a typical statement of this company:

	Total	*Product A*	*Product B*
Sales	$191,000	$65,400	$125,600
Cost of Manufacturing			
Materials	$ 70,000	$30,000	$ 40,000
Labor	50,000	20,000	30,000
Overhead	45,500	20,000	25,500
	$165,500	$70,000	$ 95,500
Other Expenses			
Sales Salaries	$ 5,600		
Sales Traveling Expenses	3,500		
Misc. Selling Expenses	2,500		
Office Expenses	1,800		
Sundry Office Expenses	600		
Executive Expenses	6,000		
	$ 20,000	$ 9,000	11,000
Total Costs	$185,500	$79,000	$106,500
Operating Profit	$ 5,500	*$13,600	$ 19,100

* Loss.

Since product A showed a loss of $13,600 and product B showed a profit of $19,100, it was suggested that product A be dropped. From a survey of sales and costs the following facts were found. First, there was little likelihood that the volume of product B could be increased. If product A were eliminated the cost of materials could be eliminated, and the cost of the labor charged to product A could be reduced 75 per cent, or $15,000. The factory overhead allocated to product A could be reduced 30 per cent, or $6,000. The sales salaries could not be reduced because the salesmen

were on salaries comparable to those received by the salesmen of competitors. Traveling expenses could not be reduced because products A and B were sold to the same buyers, so that the same territory had to be covered. Miscellaneous selling expenses could be reduced $500, but the office and executive expenses would remain the same. The total reduction in expenses may be summarized as follows:

Materials	$30,000
Labor	15,000
Factory Overhead	6,000
Sundry Selling Expenses	500
	$51,500

The sales amounted to $65,400, but if product A were eliminated costs could be reduced $51,500. The difference of $13,900 is the contribution of product A to the profits of the enterprise. If product A were eliminated a loss of $8,400 ($13,900 – $5,500) would be sustained instead of a profit of $5,500 being made.

The same procedure should be followed in determining the effect on the profits of the elimination of a department, a territory, or a group of customers.

The student is warned that we have considered only the cost computation. Many other factors must also be considered by the management before the final decision is reached.

The Replacement of Equipment. Frequently executives are confronted with the problem of determining whether or not to replace plant and equipment, and such decisions are often quite difficult to make. Let us consider the following facts: The Dronton Manufacturing Co. owns two machines, each of which cost $6,000. These machines will produce 1,000 units a year each, a total of 2,000 units. The machines originally had an estimated life of 6 years and were 2 years old, the remaining life being 4 years. At this time the machines had a trade-in value of $400 each, a total of $800, and 4 years later they would have a resale value of $100 each. The cost of operating these machines for one year totaled $5,727, or $2.863 per unit, computed as follows:

Depreciation	$1,967
Labor	3,000
Repairs	300
Power	360
Taxes, Insurance, and Sundry	100
	$5,727

Cost per unit, $5,727 ÷ 2,000, or $2.863.

However, the depreciation of the machines is a "sunk" cost; it has already been incurred and little of it can be recovered by the sale of the

machines. The important costs when considering the replacement of the machines are the out-of-pocket costs. The out-of-pocket cost per unit manufactured is $1.88, computed as follows:

Labor	$3,000
Repairs	300
Power	360
Taxes, Insurance, Sundry	100
	$3,760

Out-of-pocket cost per unit, $3,760 ÷ 2,000, or $1.88.

A new machine was offered the Dronton Co. for $8,000. This machine would last 4 years, after which it could be sold for its scrap value of $200. It would produce 2,000 units a year at the following costs:

Depreciation	$1,950
Labor	1,800
Repairs	200
Power	200
Taxes, Insurance, Sundry	225
	$4,375

Cost per unit, $4,375 ÷ 2,000, or $2.19.

All of these costs of the new machine, including depreciation which is not ordinarily an out-of-pocket cost, would be out-of-pocket costs. Partly offsetting these out-of-pocket costs would be the trade-in value of the old machines. This amount is $800, or $200 per year, or 10 cents per unit produced, leaving an out-of-pocket cost of $2.09 per unit.

This cost of $2.09 per unit is considerably below the unit cost of $2.863 with the old machines, but is considerably above the out-of-pocket cost of $1.88 with the old machines.

Assuming that there are no other important factors to consider, such as a difference in quality of the product, it would be more economical to continue with the old machines.

This is one reason why we often find an old, inefficient plant continuing to compete with more efficient plants, the out-of-pocket costs of the enterprise may be lower per unit than the competitors' unit costs.

Make or Buy. Another application of increment costs is in computations to determine whether a product, such as a part, should be manufactured or bought. A manufacturer might have idle space and equipment which he might use to manufacture a part that he is now buying. To determine the costs that would apply to the part, the manufacturer would in the short run include only the added costs, which would ordinarily be the costs of materials and labor and some minor items. For example, the total cost of manufacturing part A was estimated to be $1.20, made up as follows: materials, $0.50, labor $0.40, and overhead $0.30. The product could

be purchased for \$1.05. If practically all of the overhead of \$0.30 would not be added cost but would exist anyway, the added costs of manufacturing product A would be only \$0.90 as compared with the purchase cost of \$1.05. Ordinarily, when an enterprise is contemplating the manufacture of a part, machinery and equipment costs should be considered added costs since they must be replaced when worn out. However, there are exceptions to this; an enterprise which contemplated the manufacture of a part for a short time only, on machines which were becoming obsolete, would not include the depreciation on these machines with the added costs.

The preceding discussion and illustration are intended merely to give the reader an idea of the cost aspect of the problem. Ordinarily there are many other factors to consider, most of which are intangibles, the cost computation frequently being only a very minor aspect of the problem.[1]

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain the terms *increment costs* and *decrement costs.*

2. A lath mill was operated in conjunction with a sawmill. The wood used by the lath mill otherwise would be burned as waste. The cost accountant of the company charged the lath mill with the estimated cost of the wood it used. The cost of producing laths was higher than the selling price. It was proposed that the lath mill be discontinued because it was operating at a loss. What factors would you take into consideration in deciding whether or not the lath mill should be closed?

3. The Murton Manufacturing Co., which used a furnace process, required a crew of men to load and unload the furnaces. During a substantial portion of the day these men were idle. The Murton Co. is contemplating the addition of another product which can be manufactured by these men in their spare time. How would you go about determining whether or not this product should be added?

4. The Irving Manufacturing Co. owned a large building, much of the space of which was heated and lighted but was unused. It was proposed that a new product be added which would utilize this space. This product would require several additional machines, but no additional supervisors. How would you determine whether or not this product could be profitably added?

5. Why may the Milton Watch Manufacturing Co., an Eastern company, sell the same watch in the European market at a much lower price than in the United States?

6. At \$5 a unit 5,000 units of a product can be sold. The costs directly attributable to this product are \$4 per unit. If the price were reduced to \$3.50 per unit, 20,000 units could be sold; and because of the greater volume the costs directly attributable to the product would be reduced to \$3 per unit. Which price would be the more profitable to the company?

7. Do you think the majority of companies know enough about the demand for their products to determine what quantity can be sold at different prices?

8. The Ryerson Corporation, in a highly competitive industry, decided to reduce its price 10 per cent per unit. The executives reasoned that this decrease in price would not increase the total sales of the industry but that Ryerson would receive some business now going to their competitors. What do you think of this policy?

[1] See H. T. Lewis, *Industrial Procurement,* The Richard T. Irwin Co., Chicago, 1940, Chapter XI.

9. The Orinoco Mail Order Co. followed a policy of placing its orders with manufacturers at times when the manufacturers could work on these orders during the dull season. Do you think the Orinoco Mail Order Co. was justified in asking for price concessions under these circumstances?

10. A large distributor of supplies used in the medicinal trade frequently can place orders in such a way that the manufacturer can work on them over a 6-month period. Because he gives the manufacturer such a large order that the manufacturer is assured a certain minimum volume of business over this period, the purchasing agent expects a concession in price. Do you think he is justified?

11. The Wertway Manufacturing Co. purchased parts used in assembly operations from the Ralston Manufacturing Co. The price paid for these parts was 16 cents per unit. The Wertway Manufacturing Co. had idle machines and unused space in its fabricating shop that could be used for the manufacture of these parts. The officials of the Wertway Co. estimated that the cost of manufacturing these parts would be 19 cents, made up as follows: materials 6 cents, direct labor 4 cents, power and other direct costs 2 cents, general supervision and other department overhead 2 cents, depreciation on building 2 cents, depreciation of equipment and other overhead 3 cents. No additional supervisors were necessary. From a cost standpoint, should the parts be manufactured? What other factors should be considered?

12. The Hunbart Timber Co. owned a stand of timber which it had purchased 10 years ago at a cost of $3 per thousand feet. The sawmill depreciation was $25,000 a year or approximately $1 per thousand feet of lumber produced. Year after year this company had been showing a loss of approximately $1.50 per thousand feet. Why did it continue to operate?

LABORATORY PROBLEMS

1. The following is the statement of profit and loss for the Walter Automatic Corporation for the year 1933.

Walter Automatic Corporation

Statement of Profit and Loss
Year ending December 31, 1933

Sales		$485,700
Cost of Goods Sold*		315,000
Gross Margin		$170,700
Selling Expenses		
Sales Salaries and Commissions	$36,800	
Sales Traveling Expenses	15,200	
Advertising	7,500	
Depreciation	9,200	
Sundry Selling Expenses	9,600	
Sales Supplies Used	6,600	84,900
		$ 85,800
General and Administrative Expenses		
Salaries	$28,700	
Taxes, Insurance	3,500	
Depreciation	2,800	
Supplies	2,300	37,300
Operating Profit		$ 48,500

* Includes depreciation of $75,000.

It is estimated that 1934 sales will be 25 per cent less than 1933 sales. You are required to estimate the 1934 operating profit, giving effect to the following data:

All expenses but depreciation, salesmen's traveling expenses, and taxes and insurance will be kept in the same proportion to sales. Depreciation, insurance, and taxes will remain unchanged. Traveling expenses will be decreased 25 per cent of the percentage that sales decrease.

2. (a) The total of the indirect expenses (including selling and general administrative) of the Shirlie-Myers Corporation was $75,000. The sales of product A amounted to $105,000. The direct costs of product A amounted to $80,000, and the indirect expenses allocated to product A amounted to $30,000. Year after year the profit and loss statements made up for product A showed a loss of approximately $5,000 a year. Assuming that the elimination of product A would not reduce the indirect expenses, should product A be eliminated? Give figures to support your conclusion, and consider no factors other than those given.

(b) Referring to part (a), assume the loss on product A was $40,000. Considering the given figures alone, should product A be eliminated? Are there any other factors to consider?

3. The Willix-Clay Corporation produced one product. The direct costs of $10 per unit did not vary with the quantity produced. The indirect costs, all of which were relatively fixed, amounted to $100,000.

The number of units that could be sold at different prices was estimated to be as follows:

Units	*Price*
5,000	$35
7,000	30
12,000	25
20,000	20
25,000	15

What price would yield the greatest profit to the Willix-Clay Corporation? Make up a tabulation to show the estimated operating profit at every price.

4. The Milton Manufacturing Co. owned a machine which it had purchased 3 years previously for $2,400. The depreciation recorded amounted to $1,200. The machine had a sales value of $400.

The annual costs of production by this machine were:

Depreciation	$ 400
Labor (2 workers)	2,400
Power	150
Sundry Costs (including repairs)	150
	$3,100

This machine was used only for the production of product A, of which it produced on the average 1,000 units a year, all that was needed by the Milton Manufacturing Co.

A new machine was offered the Milton Manufacturing Co. which would produce 1,000 units in 9 months with the services of one skilled mechanic who would earn $225 per month. The machine would cost $4,800 and should be usable for 4 years after which it would be scrapped, although it might become obsolete before that time. Power and other costs of this new machine would amount to $300 for the 9 months. Should the new machine be purchased? Support your answer with figures.

CHAPTER XXVIII. PARTNERSHIPS: FORMATION AND DIVISION OF PROFITS

Nature of a Partnership. A partnership is defined by the Uniform Partnership Act as "An association of two or more persons to carry on as co-owners a business for profit." The partnership is based upon a contract; consequently the law of contracts prevails in the formation of partnerships. There must be capacity of the partners, a meeting of minds, consideration, and legality of object. The agreement may be either oral or written, express or implied.

Partnership agreements should be in writing. There are so many possible points of dispute in a partnership that the contract should be drawn up by a competent attorney and examined by an accountant. The chief points that should be covered are listed under the section on the partnership contract on page 494.

A partnership may result from an implied contract. Although a person cannot be made a partner without his consent, the partnership relationship may be held to exist even though no specific agreement has been made. The actions of the parties may be taken by the courts as proof that a partnership was intended. In fact, instances are known where an individual who did not intend to become a partner has been held to be a partner. One of the tests of the partnership relation is an agreement to share in the profits and losses of the enterprise; but this does not mean that everyone who obtains a share of the profits of a partnership is necessarily a partner. One who loans money to a partnership on condition that he receive a share of the profits is not necessarily a partner. The right to a share of the profits may be evidence of the partnership relation, but is not conclusive. On the other hand, agreements which provide a share of the profits as compensation must be *bona fide* if the party is not to be considered a partner. The agreement must be more than a device to enable one who is really a partner to escape liability. A person not a partner must have no interest in the profits as property.

Management of a Partnership. Each partner has one vote in the management of a partnership unless otherwise agreed. The majority controls when acting in good faith within the scope of the partnership business. A tie vote would appear to prohibit the taking of any action contemplated.

Duties of a Partner. A partner, in addition to being a principal, is an agent. He is the agent of the other partners. Consequently, the law of agency is important in all partnership relations. As an agent the partner occupies a position of trust; it is his responsibility to act in the interests of the partnership rather than in his own individual interest. If the partner has special knowledge of value to the partnership, it is his duty to impart that knowledge to the partnership.

Liability of a Partner. Each partner may be held liable for *all* the debts of the partnership. All his personal assets except those exempt under the bankruptcy laws may become subject to the claims of creditors. A partner who paid all the partnership debts would have a legal claim against each of the other partners, but these claims might be uncollectible and of little or no value. Add to this the fact that, as a result of the principal and agent relationship, a partner has the right to make contracts within the ordinary course of the business, which will bind the partnership, and it should be obvious that the partnership relation may be a very dangerous one.

Why Partnerships Are Formed. Individuals who are considering entering business together might form a corporation or a limited partnership instead of the ordinary partnership.

People may form partnerships, rather than engage in business alone, in order to obtain capital and the services of other persons, advantages which can be obtained under the corporate form of organization with the additional advantage that the chief risk of the partnership, that of unlimited liability, may be avoided. When the risks of a partnership are considered one may wonder why people enter into partnership agreements. There are different reasons, one of the chief of which is the desire to avoid the higher taxes on smaller corporations. A small number of partners who operate a partnership the profits of which are in the lower income brackets often find their taxes very much lower than if they operated as a corporation. In the lower brackets of personal incomes, the income tax rates were in 1945 much lower than those of a corporation. In addition, working owners of an enterprise are not considered employees of a partnership, but they are considered to be employees of a corporation, with the result that social security taxes may have to be paid on their salaries up to $3,000.

The Limited Partnership. An alternative to both the ordinary partnership and the corporation is the *limited partnership*. Limited partnerships did not exist under the common law; they may be formed only when state statutes have been passed permitting them. Such statutes generally require that there be a certain number of general partners, ordinarily two, with unlimited liability. Other partners are permitted whose liability may be limited to the capital which they contribute to the partnership. The names of those partners must not appear in the partnership name, and they must

take no active part in the management of the partnership. When there are only two partners or prospective partners of a partnership, a limited partnership cannot be formed. Even if there are more than two partners or prospective partners, these persons are not always willing to grant a few partners the privilege of limited liability. Such a privilege is ordinarily granted only in order to persuade certain individuals to enter into the partnership. Partners who have little capital may grant such a privilege to those who have the capital. When forming limited partnerships one must carefully follow the statute, for courts are very strict in their interpretation of such agreements.

The Partnership Contract. The written partnership contract, often called the *articles of copartnership*, is a very important document. If the agreement is not carefully prepared in writing, the possibility of misunderstandings and friction within the partnership is greatly increased. The accountant for a partnership should always carefully study this agreement, for it governs much of his accounting. The articles of copartnership usually contain clauses relating to the organization, the operation, and the dissolution of the partnership, together with the method of distributing the profits or losses. The following points should be covered in the agreement:

The firm name, the names of the partners, and their specific duties.

The place of business.

The date when the partnership becomes effective, and the date when it will terminate.

The nature of the business.

The amount of capital to be contributed by the partners.

The salaries allowed to partners; and where it is the intention to allow salaries to a partner, or partners, it should be made clear that these salaries are a charge against the partnership profits and not against the individual drawing the salary. It should also be made clear whether or not salaries are to be allowed if the profits are not sufficiently large to absorb them.

The withdrawals to be permitted; the interest, if any, upon the drawings.

The records to be kept.

The length of the accounting period.

The method of settling disputes.

The procedure to be followed if a partner is permitted to withdraw, and the terms under which he will be permitted to withdraw.

The method of dividing profits and losses.

The interest, if any, allowed on capital.

The definition of the capital upon which interest is to be allowed, *i.e.* capital at the beginning of the period, the end of the period, or the average capital.

Provisions as to what shall be done if an event such as death occurs that will legally dissolve the partnership. Will the partnership be continued, will the estate act as a partner until the end of the accounting period, or must the other partners purchase the deceased partner's interest?

The conditions under which the partnership will be dissolved.

Accounting for a Partnership. Most partnership accounting is exactly like that of an individual proprietorship; the chief difference is in the accounting for the proprietorship of the partnership. If A. B. Smith invested $10,000 cash in a business, the books would be opened by a debit of $10,000 to the Cash account, and a credit of $10,000 to A. B. Smith, Proprietorship. If Smith and Jones entered into a partnership agreement and each contributed $5,000 cash, the opening entries in journal form would be:

Cash	$5,000	
A. B. Smith, Capital		$5,000
To record the investment of A. B. Smith		
Cash	$5,000	
R. S. Jones, Capital		$5,000
To record the investment of R. S. Jones		

It will be observed that the proprietorship of a partnership is stated in terms of each partner's capital, a capital account being opened for each partner. Usually a personal or drawing account is also opened for each partner, but if the drawings are infrequent the amounts may be debited direct to each partner's capital account.

More law than accounting is involved in partnership accounting. On the other hand, the accountant's knowledge of the accounting aspects of the law will often be very valuable to the attorney. But the accountant should never proceed on a disputed point even though he feels certain that he knows the law, but he should insist that the partners first settle the matter between themselves. The facts are so important in legal matters and the decisions of the courts vary so much that the accountant must not presume that he knows the law.

The student will find partnership accounting less difficult if he keeps in mind the following assumption which underlies much of partnership law and accounting. *It is assumed that partners assume risks, contribute services, capital, abilities, reputations, and the like to the partnership in order to make profits. It is assumed that they will obtain their recompense from the profits.*

This means that partners are not entitled to salaries, or to interest on the capital they have contributed, unless the partnership agreement so provides; the partners are to depend upon the profits for their compensation. One individual might assume practically the entire risks, as would be the case when one party had considerable personal property and the other had very little, yet the party assuming the risks would not legally be entitled to additional compensation in the absence of an agreement to that effect. One partner might contribute all the capital, another none, yet the

one contributing all the capital would not be entitled to interest on his capital unless it was so agreed. The same is true of salaries. Partners are not allowed salaries unless they have so agreed; they are assumed to contribute services in order to make profits from which they will receive their compensation.

If salaries are to be allowed to partners, or interest allowed on the capital accounts, the salaries and interest are considered to be a division of profits rather than expenses. That is, the salaries and interest would be debited to the Profit and Loss Summary account when the profit was divided. If the profit before salaries was $7,000, and two partners, whom we shall designate as A and B, are to be allowed salaries of $2,000 and $2,500, respectively, these salaries would be debited to the Profit and Loss Summary when the profit was divided and credited to the partners' drawing accounts, as follows:

Profit and Loss Summary		A, Drawing		B, Drawing	
2,000	7,000		2,000		2,500
2,500					

When the salaries are paid, whether during the period or at the end of the period, the Cash account would be credited and the partners' drawing accounts would be debited. *A good practice to follow is to debit all drawings of partners, whether salaries or not, to the partners' drawing accounts.* If the drawing is a salary the drawing accounts will be credited when the entries are made to record the division of profits.

Partners' Drawings. Partners withdraw cash and sometimes merchandise during an accounting period. These withdrawals are debited to each partner's drawing account, the balance of which may be closed to his capital account, or handled as agreed between the partners. Frequently the partners agree to leave the drawing accounts open, the balances representing the amounts the partners are entitled to withdraw from the business.

If partner A is permitted to withdraw $200 a month, the agreement should be very clear as to whether this was intended to be a salary or a withdrawal from A's share of the current profits. If the withdrawal were intended to be a salary, the amounts would be debited to the A Drawing account as they are withdrawn and, at the end of the accounting period, the amount of the salary for the period would be debited to the Profit and Loss Summary and credited to the A Drawing account. If the accounting period is one year and if A withdrew his salary every month, debits totaling $2,400 would be entered in the A Drawing account before the profits are divided.

A, Drawing

Jan. 31	200		
Feb. 28	200		
March 31	200		
April 30	200		
May 31	200		
June 30	200		
July 31	200		
Aug. 31	200		
Sept. 30	200		
Oct. 31	200		
Nov. 30	200		
Dec. 31	200		
	2,400		

When the profit is divided, an entry would be made to debit the Profit and Loss Summary account $2,400 and to credit the A Drawing account $2,400, and the latter account would then appear as follows:

A, Drawing

Jan. 31	200	Dec. 31	2,400
Feb. 28	200		
March 31	200		
April 30	200		
May 31	200		
June 30	200		
July 31	200		
Aug. 31	200		
Sept. 30	200		
Oct. 31	200		
Nov. 30	200		
Dec. 31	200		
	2,400		

To illustrate: A and B are partners dividing profits and losses equally. The profit is $5,000 before A's withdrawal of $200 a month. If these withdrawals were intended to be a salary, the amounts would be debited to the A Drawing account as they are withdrawn. Then at the end of a year there would be debits totaling $2,400 in the A Drawing account. When the profit is divided, a debit of $2,400 would be made to the Profit and Loss Summary account and a credit of $2,400 to the A Drawing account. The balance of the Profit and Loss Summary would be $2,600, of which one-half or $1,300 would be credited to the A Drawing account, and the same amount to the B Drawing account.

If the withdrawal were not intended to be a salary, the entry to debit the Profit and Loss Summary $2,400 and credit the A Drawing account would not be made. The $5,000 balance of the Profit and Loss Summary

would be divided equally between A and B. B would be credited with $2,500 instead of $1,300.

Thus, a salary allowed a partner becomes a charge against the partnership. The partner does not stand the entire charge. When the withdrawal is not a salary, the entire amount is a charge to that particular partner.

Interest is not charged on a partner's drawings unless the agreement so provides. When interest is agreed upon, the debits are made to the partner's drawing account, and the credit is to the Interest Revenue account.

Partners' Loans. Loans made to the partnership by partners are distinguished from the proprietorship. A partner may advance money to the partnership for long or short periods of time, for which he may receive a note payable as evidence of the liability, or the loan may be credited to his loan account.

The loans made to a sound operating partnership may be shown on the balance sheet as liabilities. Short-term loans that are to be paid within a year may be shown as current liabilities. This practice is not strictly correct, for the liability is not to a creditor but to an owner. The partnership is not a legal entity separate from the partners. But for all practical purposes this method of showing loans on the balance sheet may depict the facts in the most satisfactory way. To present the facts may be more important than to adhere strictly to a theory.

Under other circumstances, the partners' loans should be shown in the proprietorship section of the balance sheet. If the loan appears to represent a permanent advance to the business, or if the business is to be liquidated, the facts would be better presented if the loan is shown in this way.

Closing the Partnership Books. At the end of the accounting period the revenue and expense accounts will be closed as in the individual proprietorship. Sales and the various expense accounts will be closed to the Profit and Loss Summary account, which may appear something like the following after the revenue and expense accounts have been closed:

Profit and Loss Summary

Dec.	31	Expenses		44,000	00	Dec.	31	Sales		50,000	00

If the profits are to be divided equally between A and B, a journal entry is made to debit the Profit and Loss Summary $6,000 and to credit the drawing accounts of A and B, $3,000 each. The Profit and Loss Summary would then appear as follows:

Profit and Loss Summary

Dec.	31			44,000	00	Dec.	31			50,000	00
	31			6,000	00						
				50,000	00					50,000	00

The following entry would have been made to close the Profit and Loss Summary account:

Profit and Loss Summary	$6,000	
A, Drawing		$3,000
B, Drawing		3,000
To close the balance of the Profit and Loss Summary account to the partners' drawing accounts		

If the balances of the drawing accounts were now $1,500 and $2,000, respectively, the following entry may be made to close these accounts:

A, Drawing	$1,500	
B, Drawing	2,000	
A, Capital		$1,500
B, Capital		2,000
To close the balance of the drawing accounts to the capital accounts		

Division of Profits. Since the partnership is based upon contract, profits are divided as agreed upon between the partners. *In the absence of an agreement it is presumed that the partners intended to divide profits equally.* This is true regardless of the difference in the risks assumed, the time devoted by the partners to the partnership, the difference in their abilities, or the difference in their investments.

If all the partners assume the same risks, perform the same services with equal ability, and invest the same amounts of capital, the logical way to divide profits would be to divide them equally. Otherwise, the risks assumed, the services rendered, and the investments made by the partners should be taken into consideration when determining the profit- and loss-sharing ratio.

If one partner assumes unusual risks he should be compensated out of the profits for these risks. In the contracting business one partner may do nothing but guarantee the performance of the contract, and since he assumes an unusual portion of the risk this should be considered when the partners determine the profit-sharing ratio.

The services rendered by partners may be the result of the time devoted to the partnership business or the result of their abilities. If one partner devotes all of his time to the partnership while the others devote none, he should be recompensed for this service. But time alone is not the only consideration. In addition, it is only fair to recompense partners for their capital contributions unless all the partners contribute the same amount.

When partners of different abilities devote different amounts of time

to the partnership and have invested different amounts in the partnership, salaries and interest on the capital accounts should be allowed. Any additional profits may be divided equally or in an arbitrary ratio.

The provision for a fixed salary might not be desirable, especially in a new partnership with uncertain profits. As a substitute it might be provided that partners be allowed a percentage of the profits as salaries until they have received a certain maximum salary. But a maximum should be placed on salaries computed in this way if an equitable division of the profits is to be obtained. The partners should receive reasonable but not excess compensation for their efforts.

A reasonable rate of interest upon partners' capital accounts should be agreed upon for the allocation of profits to the partners for the capital they have contributed. The rate should be sufficiently high to compensate for the risks incurred but should not be arbitrarily set at a high figure. If interest at 5 per cent per year is allowed to partners A and B, with capitals of $10,000 and $5,000, respectively, the partners would be credited with interest of $500 and $250. If the rate were 10 per cent the partners would be credited with $1,000 and $500, a difference of $500 instead of $250. When the amounts of the partners' capital contributions are substantially different, higher interest rates result in a greater differential in the amounts that would be credited to the partners. For that reason the rates should be high enough to compensate for the risks resulting from that type of investment but no higher.

Illustrations will now be given of common methods of dividing profits. Profits may be divided:

Equally
In an arbitrary ratio
In proportion to the capitals at the beginning of the period
In proportion to the average amount of capital invested
By allowing salaries to partners and dividing the balance equally
By allowing interest on partners' capital accounts and dividing the balance equally
By allowing salaries to partners, interest on the capital accounts, and dividing the balance equally.

Profits divided equally. A profit of $6,000 of the A. B. C. Partnership is divided equally among the partners if no agreement had been made to the contrary, or if the partners had agreed to divide profits equally. A journal entry would be made as follows to record the division of the profits.

Profit and Loss Summary	$6,000	
A, Drawing		$2,000
B, Drawing		2,000
C, Drawing		2,000
To close the balance of the Profit and Loss account to the drawing accounts		

The balances of the drawing or personal accounts would be closed to the partners' capital accounts or handled as agreed by the partners.

This method would be equitable if all the partners were assuming no unusual risks, and were making approximately the same contributions of time, ability, and capital.

Profits divided in an arbitrary ratio. A and B, partners, agree to divide profits in the ratio of 60:40, or three-fifths and two-fifths, respectively. A profit of $10,000 would be divided by debiting the Profit and Loss Summary $10,000 and crediting the A Drawing account $6,000 and the B Drawing account $4,000, as follows:

Profit and Loss Summary	$10,000	
A, Drawing.		$6,000
B, Drawing		4,000
To record division of profit three-fifths to A and two-fifths to B		

This method is often used when partners make different contributions to the partnership. It is a simple method but may not be as desirable as methods which provide for definite recompense based upon time, ability, risk, and capital contributions.

Profits divided in proportion to the capitals at the beginning of the period. A and B, partners with capitals of $10,000 and $5,000, respectively, on January 1, divided profits in proportion to the January 1 balances of their capital accounts. In this case A would receive two-thirds of the profits and B one-third. A profit of $12,000 would be divided as shown by the following journal entry:

Profit and Loss Summary	$12,000	
A, Drawing		$8,000
B, Drawing		4,000
To record division of profit in the capital ratio, as of Jan. 1, two-thirds to A, one-third to B		

This method might be used when partners assume no unusual risks, contribute only capital, and have employees who render all services required. It may, however, result in complications if the balance of a partner's capital account becomes a debit. Instead of dividing profits in proportion to their capitals, partners will usually find it more satisfactory to compensate partners for their capital contributions by allowing interest on the capitals and dividing the remainder of the profits in some other way.

Profits divided in proportion to the average capital invested. The capital accounts of A and B, who are partners, appear as follows:

A Capital

April 1	3,000	Jan. 1	10,000
		Aug. 1	3,000

B Capital

Sept. 1	2,000	Jan. 1	5,000
		May 1	4,000

A's average capital would be computed as follows:

			Month-Dollars
Jan. 1	Capital $10,000 unchanged for	3 months:	
	10,000 × 3 = 30,000		30,000
April 1	Capital $7,000 unchanged for	4 months:	
	7,000 × 4 = 28,000		28,000
Aug. 1	Capital $10,000 unchanged for	5 months:	
	10,000 × 5 = 50,000		50,000
		12	108,000

Average capital, $108,000 ÷ 12 = $9,000.

B's average capital would be computed as follows:

			Month-Dollars
Jan. 1	Capital $5,000 unchanged for	4 months:	
	5,000 × 4 = 20,000		20,000
May 1	Capital $9,000 unchanged for	4 months:	
	9,000 × 4 = 36,000		36,000
Sept. 1	Capital $7,000 unchanged for	4 months:	
	7,000 × 4 = 28,000		28,000
		12	84,000

Average capital, $84,000 ÷ 12 = $7,000.

The average capital of a partner may be obtained by multiplying each item in his capital account by the number of months that balance is unchanged to obtain the number of month-dollars. The total of the month-dollars divided by 12 gives the average capital.

The average capitals of $9,000 and $7,000 total $16,000. If the profit for the period is $8,000, it would be divided in the ratio of nine-sixteenths and seven-sixteenths, that is, $4,500 to A, and $3,500 to B. It is not necessary to determine the average capitals in order to divide the profit; the same division would be obtained by adding 108,000 and 84,000 to obtain 192,000, and giving A 108/192 of the profit, and giving B 84/192 of the profit.

The closing entry would be:

Profit and Loss Summary	$8,000	
A, Drawing		$4,500
B, Drawing		3,500
To record division of the profit in the average capital ratio, nine-sixteenths to A, seven-sixteenths to B		

If investments or withdrawals occur during the month, the actual number of days and a 360-day year may be used to determine the average capital, or it may be agreed that all changes occurring in the first half of the month will be considered to be as of the first day of the month,

and all changes in the last half of the month will be considered to be as of the first day of the next month.

When the average capital method is used, partners are usually permitted withdrawals of a certain amount each period, these withdrawals being debited to the drawing accounts. Drawings in excess of the agreed amounts are debited to the capital accounts.

Profits divided by allowing salaries to partners, and dividing the balance equally. A and B are partners who have agreed to divide profits by allowing an annual salary of $2,400 to A, an annual salary of $1,200 to B, and dividing the balance equally. Assuming that the profit was $9,000 before salaries, the entries to credit the salaries to the partners would be:

Profit and Loss Summary	$3,600	
A, Drawing		$2,400
B, Drawing		1,200
To credit partners with salaries, $2,400 to A and $1,200 to B		
Profit and Loss Summary	5,400	
A, Drawing		2,700
B, Drawing		2,700
To record equal division of balance of profit		

The balances of the drawing accounts would be closed to the capital accounts or handled as agreed by the partners. This method would be equitable when the capital contributions were about equal or differed by so small an amount as to be unimportant; and when one or more partners worked all or part of the time for the partnership.

If the Profit and Loss Summary had a debit balance before the partners' salaries were charged to this account, the entries for the salaries would still be made, thereby increasing the debit balance of the Profit and Loss Summary to be divided between the partners.

Profit divided by allowing interest on partners' capitals, the balance divided equally. A and B are partners with capitals of $10,000 and $5,000, respectively. Profits are divided by allowing interest of 6 per cent on capitals, the balance to be divided equally. Assuming the profit was $8,000, the closing entries would be:

Profit and Loss Summary	$ 900	
A, Drawing		$ 600
B, Drawing		300
To credit partners with 6% interest on capitals of $10,000 and $5,000, respectively		
Profit and Loss Summary	$7,100	
A, Drawing		$3,550
B, Drawing		3,550
To record the equal division of the balance of the profit		

If profits are to be divided in the capital ratio, there is no need to provide for interest on capitals, for interest on the capital accounts results in a division of profits in the capital ratio.

If there was a debit balance of $2,000 in the Profit and Loss Summary account, the interest would still be debited to the Profit and Loss Summary and credited to the partners' drawing accounts, increasing the debit balance to be divided between the partners.

This method of dividing profits would be equitable when different amounts of capital were contributed by the partners but little benefit was received by the partnership from the time, ability, or reputations of the partners, or risks assumed by particular partners.

Profits divided by allowing salaries to the partners, interest on capitals, the balance divided equally. A and B are partners with capitals of $20,000 and $18,000, respectively. Profits are divided by allowing salaries of $3,000 to A, and $3,600 to B; by allowing interest of 8 per cent on the capital contributions, and by dividing the balance equally. The division of a profit of $10,000 is illustrated by the following journal entries:

Profit and Loss Summary	$6,600	
A, Drawing		$3,000
B, Drawing		3,600
To credit A and B with salaries		
Profit and Loss Summary	3,040	
A, Drawing		1,600
B, Drawing		1,440
To credit A and B with 8% interest on capital balances of $20,000 and $18,000, respectively		
Profit and Loss Summary	360	
A, Drawing		180
B, Drawing		180
To credit partners with the balance of the profit		

This method may be used when it is desired to compensate partners for the time they devote to the partnership, and for the capital they have contributed. The balance of the profits after salaries and interest may be divided equally, or in some other ratio as agreed. If the partnership incurred a loss before the salaries and interest were charged to the Profit and Loss Summary, these entries would still be made, thereby increasing the debit balance to be divided between the partners.

Meaning of Interest on Partners' Capital Accounts. When interest is to be allowed on partners' capital accounts, the question once more arises as to what is meant by capital. Does it mean the balance of the capital account at the beginning of the period, at the end of the period, or the average capital? This of course depends upon the agreement. If the agree-

ment does not cover this point, there is danger of a misunderstanding. The partners should therefore reach an understanding before the entries are made.

If interest is to be allowed on the average capital, the interest may be computed on the average capital or on the balances in the partners' capital accounts for the length of time they are unchanged. For example, interest at 6 per cent is to be allowed A upon his average capital, and entries were made in the A Capital account as follows:

A, Capital

May 1	2,000	Jan. 1	10,000
		June 1	1,000

A's average capital would be computed as follows:

10,000 × 4	40,000
8,000 × 1	8,000
9,000 × 7	63,000
12	111,000

111,000 ÷ 12 $9,250 = A's average capital

Interest on $9,250 at 6 per cent for one year is $555.

Or the computation may be made by computing the interest on each balance of the account for the time that balance is unchanged. The balance of $10,000 was unchanged for 4 months; the balance was then $8,000 and was unchanged for 1 month, etc. The computation is made as follows:

10,000 × 6/100 × 4/12	$200
8,000 × 6/100 × 1/12	40
9,000 × 6/100 × 7/12	315
	$555

If changes in the capital account occur during a month, computations may be made by using the actual number of days. Or, it may be agreed that all withdrawals of capital or investments of capital, if made in the first half of the month, will be taken as of the first of the month, and those occurring during the last half will be taken as of the first of the next month.

The Statement of Profit and Loss. The partnership profit and loss statement is made up exactly like that for an individual proprietorship except that the distribution of profits is usually shown on the statement.

Green and Kline

Statement of Profit and Loss
Year Ended December 31, 1942

Sales			$85,200
Cost of Goods Sold			
Inventory, Jan. 1		$ 5,000	
Purchases		64,000	
		$69,000	
Inventory, Dec. 31		7,000	62,000
Gross Margin			$23,200
Selling Expenses			
Sales Salaries	$7,500		
Sales Supplies Used	3,500		
Delivery Expenses	2,500		
Sundry Selling Expenses	1,500	$15,000	
General and Administrative Expenses			
Salaries	$3,600		
Office Supplies	1,400		
Sundry General Expenses	1,000	6,000	21,000
Operating Profit			$ 2,200
Distributed as follows:			
To J. S. Green			
Salary		$ 600	
½ of balance after salaries		350	$ 950
To C. W. Kline			
Salary		$ 900	
½ of balance after salaries		350	1,250
			$ 2,200

Statement of Partners' Capital Accounts. A statement showing the changes in partners' capital accounts from the balances at the end of the previous period is often made up somewhat like the following:

Anderson, Wilson and Hubbel

Statement of Partners' Capitals
January 1 to December 31, 1942

	Anderson	Wilson	Hubbel
Balance, Jan. 1	$ 9,800	$12,200	$6,500
Investments	1,000	800	500
	$10,800	$13,000	$7,000
Salaries	2,400	1,200	600
	$13,200	$14,200	$7,600
Interest at 5% on capitals	490	610	325
	$13,690	$14,810	$7,925
Remainder of profits divided equally	2,000	2,000	2,000
	$15,690	$16,810	$9,925
Withdrawals	2,000	1,000	1,000
Balance, Dec. 31	$13,690	$15,810	$8,925

This statement shows the changes that occurred in the partners' capital accounts during the year. All the credits to the account are added

to the opening balance, and all the debits to the account are deducted to obtain the balance of the capital account at the end of the period.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What is a partnership?

2. Must a partnership agreement be in writing?

3. May the partnership relationship be held to exist even though the parties made no agreement, written or oral, that they were engaging in a partnership venture?

4. Arnold Willix, a member of a partnership owned by himself and two other persons, disagreed with the other two partners over the extension of credit to the Wireton Wholesale Co. Mr. Willix's capital of $20,000 was greater than the combined capitals of Mr. Post and Mr. Turner, which totaled $15,000. Because of his greater capital Mr. Willix argued that he had the right to decide whether or not credit would be extended to the Wireton Wholesale Co. Was Mr. Willix right?

5. What are the responsibilities of a partner to a partnership?

6. If you were invited to join a partnership without being required to invest any capital in the partnership, would you do so?

7. What points should be covered in a partnership contract?

8. Mr. A. B. Wilson withdrew $300 a month from a partnership.

(a) If this withdrawal is intended to be a salary what account would be debited when the withdrawal is made, and what other entry would be made?

(b) If this withdrawal was considered to be drawn from Mr. Wilson's share of the profit, how would you record the debit? Explain.

9. Mr. Irwin Nelson entered a partnership with Mr. Wilson. Mr. Nelson devoted his entire time to the partnership under the belief that he was entitled to a salary for the time he worked. Later in the year the partners had a serious disagreement and agreed to dissolve the partnership. Mr. Nelson claimed that he was entitled to a salary for the time he worked.

Mr. Wilson claimed that Mr. Nelson was not entitled to a salary, for no agreement had been made to that effect. Mr. Nelson admitted that no agreement had been made but claimed he was legally entitled to the salary because he had spent all of his time managing the partnership. Was Mr. Nelson legally entitled to a salary?

10. Are partners entitled to interest on the balances of their capital accounts?

11. What is the legal assumption underlying the rules followed in questions 9 and 10?

12. A and B had capitals of $10,000 and $20,000 respectively. They agreed that each partner would be entitled to interest on his capital. They considered a rate of 6 per cent to be a reasonable rate; but B proposed that since both were to receive interest they might as well make the rate 12 per cent. Would this make any difference to A?

13. A and B made a partnership agreement. A invested $20,000 and B invested $5,000 in the partnership. At the end of the year a disagreement arose over the division of profits. A argued that he took it for granted that he was entitled to four-fifths of the profits. Otherwise he said he would not have agreed to enter into a partnership. B argued that, since no agreement had been made as to the division of profits, profits should be divided equally. Which was correct?

14. A partnership agreement contained a clause which stated that profits were to

be divided in proportion to the capital invested by the partners. What does this clause mean?

15. The balance of the A Capital account on January 1 was $5,000. On September 1 A withdrew $1,000. What was A's average capital for the period?

16. What is meant by the statement that "even though each partner contributed $10,000 to the partnership some partners may be subject to greater risks than the others"?

17. How are partners' salaries shown on the statement of profit and loss?

18. What is a statement of partners' capital accounts?

LABORATORY PROBLEMS

1. On January 1, 1944, the balances of the capital accounts of Harmon and Green were $10,000 and $5,000, respectively. Harmon withdrew $500 on May 1, invested $2,000 on June 1, and withdrew $1,000 on October 1. Green invested $2,000 on September 1 and withdrew $500 on December 1. The profit for the year 1944 was $9,000.

(a) Make the journal entry, or entries, for the division of the profit for the year 1944, when the profits and losses are divided equally.

(b) Make the journal entries for the division of the profit in the ratio of the balances of the capital accounts at the beginning of the year.

(c) Make the journal entries for the division of the profit if Harmon was allowed a salary of $300 a month and Green a salary of $200 a month, which neither of them had drawn, after which the balance of the profits or losses was to be divided equally.

2. Martin and Smith, partners, with capitals of $10,000 and $5,000, respectively, divide profits and losses as follows: 5 per cent interest is to be allowed on the capitals of $10,000 and $5,000; the partners are to receive salaries of $2,400 and $1,800, respectively; and the balance of the profits or losses is to be divided equally. Make the journal entries to record the division of a loss of $1,500 for the year 1943.

3. A. E. Arnold manages the partnership of Arnold and Swanson in which Swanson is not actively engaged. It is agreed that Arnold is to receive a salary of $200 a month, that 5 per cent interest is to be allowed on the partners' capital accounts which have credit balances of $5,000 and $6,000, respectively, after which the balance of the profits or losses is to be divided equally. The bookkeeper debited Arnold's salary, as Arnold drew it, to his drawing account. The Profit and Loss Summary account showed a credit balance of $7,000. Make journal entries to record the division of the profit.

4. Smith and Blake invested $4,000 and $2,000, respectively, in a partnership. They agreed to share profits and losses in the ratio of 70:30, respectively. Since both were to be actively engaged in the partnership, they had agreed that they would be permitted to withdraw $300 and $200 a month, respectively. The drawings were not to be considered salaries but as drawings from each partner's share of the profits. The profit before the drawings was $8,000.

(a) Make a journal entry to record the drawings of each partner for the entire year, and make the entry to record the division of the balance of the profit.

(b) Would it be to the advantage of either of the partners to have it agreed that the drawings were to be charged to the Profit and Loss Summary account?

(c) Make the entry for division of the profit of $8,000 if the profits and losses were to be divided as follows: 6 per cent interest was to be allowed to each partner on the balance of his capital account at the beginning of each year, the balance of the profits or losses to be divided in the ratio 70:30.

5. (a) From the facts given in problem 1 determine the average capitals of Harmon and Green.

(b) Divide the profit of $9,000 in the average capital ratio.

6. Walton, a partner, had made a loan of $5,000 at 5 per cent interest to the partnership of Walton and Harris. Harris was to be charged 5 per cent interest on drawings which were as follows for the year 1944: $300 on March 1, $400 on July 1, and $200 on October 1. On December 31, make entries to record the interest, showing your computation as a part of your explanation.

7. A, B, and C, partners, with capitals on January 1, 1944, of $6,000, $10,000, and $5,000, respectively, divide profits and losses as follows: 5 per cent interest is to be allowed on the balances of the capital accounts on January 1, after which the balance is to be divided equally. On May 2, A withdrew $500, B withdrew $800, and C invested $800.

(a) Make the entries to record the division of a profit of $8,000.

(b) Make up a statement of partners' capital accounts for the year 1944.

8. The Robert Brooks and David Jones partnership made sales of $55,000 during the year 1944; the cost of the goods sold was $40,000, the selling expenses were $7,000, and the general and administrative expenses were $3,000. Make up a statement of profit and loss for the partnership for the year 1944. Profits and losses are divided equally.

9. Herman Lassiter and A. B. Giles agreed to enter into a partnership as of September 1, 1938. Profits and losses were to be shared equally. Both Mr. Lassiter and Mr. Giles were to receive salaries of $200 a month. Investments were to be made by each partner as stated below.

Mr. Lassiter owned a small furniture factory the balance sheet of which was as follows on September 1, 1944:

Assets			*Liabilities and Proprietorship*	
Cash		$ 2,600	Notes Payable	$ 3,500
Accounts Receivable	$4,200		Accounts Payable	2,400
Less: Reserve for Doubtful Accounts	300	3,900	Accrued Taxes	200
			Accrued Wages	700
Inventories		4,500	H. Lassiter, Capital	9,540
Prepaid Insurance		90		
Prepaid Rent		400		
Delivery Equipment		1,200		
Factory Equipment		3,400		
Factory Supplies		250		
		$16,340		$16,340

Mr. Giles invested $6,000 cash, $3,500 of which was to be used to pay off the note payable. In addition, he turned over to the partnership inventories which were to be accepted by the partnership at a value of $1,500.

The assets of Mr. Lassiter were to be accepted at the amounts stated above, except that the factory equipment was to be accepted at $2,500. The liabilities of Mr. Lassiter's business were to be assumed by the partnership.

Make journal entries to open the books of the partnership.

10. Alex Smith and Elbert Harder, loggers who owned adjoining tracts of timber land, decided that their holdings could be better logged jointly. For this purpose they agreed to form a partnership as of July 1, 1941, when their assets and liabilities were as follows:

	Alex Smith	Elbert Harder
Cash	$ 2,500	$ 5,000
Logging Equipment	7,500	10,300
Accounts Receivable	1,200	2,200
Supplies	300	800
Prepaid Expenses	250	300
Inventory	1,500	1,800
Timber Lands	75,600	90,200
	$88,850	$110,600
Accounts Payable	$ 2,000	$ 1,800
Reserve for Depreciation	2,500	3,000
Reserve for Doubtful Accounts	200	300
Reserve for Depletion	12,500	30,900
Capital	71,650	74,600
	$88,850	$110,600

The assets and liabilities were to be accepted by the partnership at the above figures, except the logging equipment and the timber land, which were to be appraised by competent appraisers. The cost of the appraisal is to be paid by the partnership, two-fifths of the cost to be charged to Alex Smith and three-fifths to Elbert Harder.

The logging equipment and timber lands were appraised as follows:

	Alex Smith	Elbert Harder
Logging Equipment	$ 4,000	$ 6,000
Timber Lands	70,000	65,000

The cost of the appraisal was $3,000, which was paid.

The logging equipment and the timber lands were to be recorded at the appraised figures.

You are required to make journal entries to open the books of the partnership.

11. Williams and Hart started a partnership by investing cash of $1,000 and $3,000, respectively, on February 1, 1944. The business expanded so rapidly that additional capital was needed. On June 1, Williams invested an additional $1,000 and Hart invested $2,000. At this time it was agreed that 6 per cent interest would be allowed on the investments for the year 1944 and thereafter.

It was agreed that in determining the amount of the interest the length of time the money was invested should be taken into consideration.

On August 31, Hart invested another $2,000. On October 1 it was decided that the enterprise had more capital than it required, so Hart was permitted to withdraw $1,000.

Giving consideration to both the amount of the investments and the length of time the enterprise had the use of the money, determine the amount of interest to be credited to each partner.

Make the journal entry to record this interest.

12. Barnes, Potter, and York, partners, agreed to divide profits and losses as follows:

Interest of 5 per cent each year was to be credited to the partners on the balances of their capital accounts as of January 1, the beginning of the year.

Each partner was allowed a salary of $150 a month. All the partners drew their salaries during 1942, and these had been debited to their drawing accounts.

Each partner was permitted in addition to his salary drawings of $1,200 a year

free of interest, and an additional $1,800 on which interest at the rate of 10 per cent a year was to be charged.

No additional agreement had been made as to the division of profits and losses.

The balances of the partners' capital accounts on January 1, and the drawings for the year were:

	Barnes	Potter	York
Capital, Jan. 1.	$10,000	$8,000	$16,000
Drawings in addition to salaries (made on Jan. 1)	2,600	2,400	3,800

Make the entries to debit the partners with interest on their drawings, and make the entries to record the division of the profit. The profit was $8,500 before interest and salaries were recorded.

CHAPTER XXIX. THE TERMINATION OF A PARTNERSHIP

How Terminated. Since a partnership is based upon a contract, it may be terminated in the same way as a contract; for example, by termination of the period for which it was formed, by a partner's death, insanity, or bankruptcy, or by the admission of a new partner.

If formed for the handling of a certain project, the completion of that project terminates the partnership. When formed for a certain period of time, the members are legally obligated to remain as partners for the duration of the contract, and if a partner withdraws without just cause during that period he becomes liable to the remaining partners for breach of contract.

Valuation of the Partnership Assets on the Retirement of a Partner, or on the Admission of a New Partner. The accounting procedure is much the same when a partner retires or a new partner is admitted. In both instances the original partnership is legally terminated and a new partnership is formed, the original partnership selling its assets to the new partnership. Since a sale has taken place, the original partnership may charge any reasonable price for the assets sold. Consequently, we often find inventories, buildings, and equipment recorded on the books of the new partnership at a different cost from that at which they were originally recorded. The new costs are the costs to the new partnership. Whether we agree with this practice or not, it has been held to be the law even though no additional amounts have been expended for the buildings and equipment.

In addition goodwill is frequently recorded on the books of the new partnership, even though no payment has been made for it. This practice may seem to the reader to be improper, for goodwill does not meet the requirements of assets like cash, nor is it a cost incurred. Again, whether or not we agree with the practice, the courts have held that it is proper to record goodwill when goodwill actually exists. In fact, courts have permitted very liberal valuations to be placed upon the goodwill of partnerships.

Two Ways of Acquiring an Equity in a Partnership. A prospective partner may obtain an equity or an interest in a partnership by investing money or property in the partnership or by buying an interest from one

or more of the partners personally. In the first case the money or property is received by the partnership, and the new partner is said to have acquired his equity by *investing* in the partnership. In the second case the money or property is received by one or more of the partners individually, and the partner's equity is said to have been acquired by *buying* an equity or interest in the partnership. These two methods will now be discussed.

Investing in a Partnership. To record the investment made in a partnership by a new partner, the accountant must know both the total capital of the new partnership and the equity the new partner is to acquire. If the transaction has not been carefully analyzed, there might be different interpretations of the intentions of the parties. The accountant should insist that the partners reach an agreement as to their intentions, after which he will record the transaction. To illustrate, A and B, partners with capitals of $25,000 and $15,000, respectively, sell a one-fifth equity in the partnership capital to C for $15,000. Obviously C considered the new partnership worth $75,000 or he would not have paid $15,000 for a one-fifth interest. If A, B, and C agree that the new capital is to be $75,000, and the partnership assets are fairly valued, C must consider that the partnership has goodwill of at least $20,000, for the net assets of the new partnership after the investment of C, and exclusive of goodwill, would amount to only $55,000. *If the goodwill is to be recorded on the books, it is considered a profit of the old partnership which sold its assets to the new partnership; consequently the goodwill would be divided between A and B in their profit- and loss-sharing ratio.*

On the other hand, A, B, and C might not want to show goodwill on the partnership books. If so, the new capital would be $55,000, and C would be entitled to a credit of one-fifth of $55,000, or $11,000. The balance of his payment would be credited to A and B, who should have reached an agreement as to the division of C's excess payment of $4,000. If they have not done so, the $4,000 credit would be divided between them in their profit and loss ratio.

In determining the entries for the admission of a partner by investment, the accountant should:

Determine the total amount of the agreed new capital.

Know the new partner's share of that capital, so that he may credit this amount to the new partner's capital account.

Add to the total capital of the original partnership, as evidenced by the combined balances of the capital accounts of the original partners, the amount being invested by the new partner. If the total so obtained does not equal the agreed capital, evidently goodwill is to be brought on the books.

A few examples of the computations and entries that are made on the admission of a partner are now given.

Case 1. Acquisition of an equity by investment at its book value. A and B, partners with capitals of $10,000 and $5,000, respectively, admit C to a one-fourth interest in a total capital of $20,000 on the payment of $5,000 cash.

To determine the entries that must be made, the following facts are needed:

The amount of the new capital. This is agreed to be $20,000.

C's equity. Since this is to be one-fourth of $20,000 or $5,000, which is exactly the amount C invested, the C Capital account will be credited this amount.

The total capital after C's investment of $5,000 will be: A Capital $10,000, B Capital $5,000, C Capital $5,000, a total of $20,000. This is the amount agreed upon as the new capital. The entry crediting the C Capital account with $5,000 will properly record his entry into the partnership, as this is the amount he invested and is one-fourth of the new capital.

In journal form the entry to record the admission of C would be:

Cash	$5,000	
C, Capital		$5,000
To record admission of C to a one-fourth equity in the capital by the investment of $5,000		

Case 2. Bonus credited to the new partner. A and B, partners, with capitals of $25,000 and $15,000, respectively, share profits in the ratio of 60 : 40. They admit C to a one-fourth interest in a new capital of $50,000 on the investment of $10,000 cash.

The amount of the new capital is to be $50,000.

C's equity is to be one-fourth of $50,000, or $12,500. Since C is investing only $10,000 cash, he must receive an additional credit of $2,500.

The total capital after C's investment will be: A Capital $25,000, B Capital $15,000, and C's investment of $10,000, a new capital of $50,000, and the amount agreed upon. But since the C Capital account must be credited with $12,500 instead of $10,000, a transfer of $2,500 must be made from the accounts of A and B. A and B should have agreed as to how much each will transfer to C, but if no agreement had been made, accountants reason that the difference will be divided in the profit and loss ratio; hence $1,500 would be transferred from the A Capital account and $1,000 from the B Capital account.

The entry to record the admission of C would be as follows in journal entry form:

Cash	$10,000	
A, Capital	1,500	
B, Capital	1,000	
C, Capital		$12,500
To record admission of C to a one-fourth interest in the capital by the investment of $10,000		

Case 3. Bonus credited to the original partners. A and B, partners with capitals of $25,000 and $15,000, respectively, share profits in the

ratio of 60 : 40. C is to be admitted to a one-fourth interest in a new capital of $60,000 on the payment of $20,000 cash.

The amount of the new capital is to be $60,000. C's equity is to be one-fourth of $60,000 or $15,000, but C invested $20,000. The additional $5,000 paid in by C must be credited to the other partners.

The total capital after C's investment of $20,000 will be the total of the original capital of $40,000 plus C's investment of $20,000, a total of $60,000, the amount agreed upon. The $5,000 received from C in excess of the credit to his capital account would be divided between A and B. A and B should have agreed upon its division, but if they have not made such an agreement, the accountant reasons that the amount will be divided in the profit and loss ratio; hence $3,000 will be credited to A and $2,000 to B.

The journal entry to record the admission of C would be:

Cash	$20,000	
C, Capital		$15,000
A, Capital		3,000
B, Capital		2,000
To record the $20,000 paid in by C for a one-fourth interest in the capital		

Case 4. Goodwill credited to the original partners. A and B, partners with capitals of $25,000 and $15,000, respectively, share profits in the ratio of 60 : 40. Upon the payment of $10,000 cash, C is to be admitted to a one-sixth interest in a new capital of $60,000.

The new capital is to be $60,000.

C's interest is to be one-sixth of $60,000 or $10,000, which is exactly the amount invested by C.

The total capital after C's investment will be: A Capital $25,000, B Capital $15,000, and C's investment of $10,000, a total of $50,000. This total capital is short of the agreed amount by $10,000, so goodwill must be credited to A and B. If A and B have not agreed upon the division of goodwill, the accountant reasons that the amount will be divided in the profit and loss ratio.

In journal form the entries to record the admission of C would be:

Cash	$10,000	
C, Capital		$10,000
To record the investment of $10,000 by C for a one-sixth interest in the capital		
Goodwill	10,000	
A, Capital		6,000
B, Capital		4,000
To record goodwill of $10,000		

The Valuation of Goodwill. Two methods are followed to determine the value of goodwill. The profits of the enterprise in excess of reasonable profits on the investment in that type of enterprise are capitalized; or the goodwill is considered to be equal to the total of the excess profits for a certain number of years. To illustrate the computation of goodwill we shall consider the following facts: The total capital of the Horton and

Brix partnership averaged $60,000 for the last 5 years. A fair return on this type of investment was considered to be 10 per cent, or $6,000 a year. The profits of the enterprise averaged $11,000 a year for the past 5 years, the excess of the profits over reasonable profits being $5,000 a year.

The excess profits of $5,000 a year capitalized at 10 per cent ($5,000 ÷ .10) give a goodwill of $50,000. This is the price that one could afford to pay for the goodwill if excess profits of $5,000 were earned perpetually, but few people would care to pay such a price. Corporations have frequently paid as high a price for the goodwill of an enterprise, but payment has usually been made not in cash but in the common capital stock of the corporation.

Under the second method, the goodwill is valued at a certain number of years' excess profits. If a price of 4 years' excess profits is agreed upon, the valuation of the goodwill is considered to be $20,000.

Goodwill is often short lived, but even if not, it is a rather precarious asset; it may soon disappear. Consequently, a prospective buyer would seldom be willing to pay a price based upon the capitalized profits. But if he were willing to purchase on this basis he would prefer to have a high rate of capitalization used for the computation. Ordinarily, a buyer will prefer a valuation of goodwill based upon a certain number of years' purchase price of the excess profits, but the price finally agreed upon is usually a compromise.

The Purchase of an Equity in a Partnership. When a partner is admitted to a partnership by one or more partners selling all or a part of their equities to him, the entries on the books are very simple. A debit is made to the capital account of the original partner and a credit to the account of the new partner. If C, with a capital of $5,000, sold his interest to D, the only entry needed on the books is the following:

C, Capital	$5,000	
D, Capital		$5,000
To record purchase of C's equity by D		

Since the cash is paid to C personally, the other partners have no interest in the financial aspects of the transaction. The amount paid C might be $2,000 or $20,000, but whatever it is, the partnership records are not affected.

If D purchased a $5,000 equity in the capital from B and C, $2,000 to be transferred from the B Capital account and $3,000 from the C Capital account, the entry would be:

B, Capital	$2,000	
C, Capital	3,000	
D, Capital		$5,000
To record the purchase of an equity in the capital by D		

To illustrate further, let us consider the admission of D to the ABC partnership. A and B, with capitals of $5,000 and $3,000 respectively, sold to D a $2,000 equity in the capital for $4,000, and A and B each agreed that $1,000 be transferred from their capital accounts to that of D. The entries to record this transfer to the D Capital account are:

A, Capital	$1,000	
B, Capital	1,000	
D, Capital		$2,000
To record the sale by A and B to D of a $2,000 equity in the partnership		

The above entry is exactly what one would expect. The division of the additional $2,000 cash is a matter of agreement between A and B; it is no concern of the partnership.

Profit Sharing Ratio after the Admission of a Partner. The preceding illustrations covered the acquisition of an equity in the capital, and nothing was said about the division of the profits of the new partnership. These profits may be divided in any agreed ratio, this ratio usually being settled before the signing of the partnership agreement.

A computation that sometimes bothers the beginner is that of computing the new profit-sharing ratio when the original partners wish to keep their profit and loss ratio in the same relationship as before. Let us assume that two partners, A and B, who share profits in the ratio of 70 : 30, grant C a 40 per cent interest in the profits. The computation of a new profit-sharing ratio for A and B which would enable them to divide their share of the profits in the same ratio as before would be made as follows:

C's share of 40 per cent of the profits leaves 60 per cent for A and B.
A's share will be 70/100 of 60 per cent or 42 per cent.
B's share will be 30/100 of 60 per cent or 18 per cent.

A more unusual case is the following. A and B, who share profits in the ratio of 60 : 40, respectively, admit C to an interest in the profits equal to that of B, and it is agreed that the ratio of A and B is to remain in the same relationship as before. How are the profit and loss shares of the partners determined?

Let B's share $= X$.
Then C's share $= X$.
And A's share will be $60/40\,X$ or $3/2\,X$.

That is:

$$X + X + 3/2\,X = 100$$
$$3\ 1/2\,X = 100$$
$$7/2\,X = 100$$
$$X = 28.57\%.$$

B and C will each receive 28.57 per cent of the profits, and A will receive 3/2 of 28.57 per cent, or 42.86 per cent.

The Termination of a Partnership by Liquidation. When the partners liquidate a partnership by disposing of the assets and paying the liabilities, profits may be earned or losses sustained. These profits and losses may be closed direct to the partners' capital accounts, or they may first be recorded in an account given some such title as Realization Profit and Loss account, or Liquidation Profit and Loss account, the balance of which is divided among the partners in their profit and loss ratio. The liquidation of the assets provides cash with which to pay the creditors, after which any remaining cash is distributed to the partners.

There may be three classes of creditors:

Preferred creditors
Secured creditors
Unsecured creditors.

The preferred creditors are those creditors whose claims must be satisfied before those of the other creditors. Obligations for real estate taxes are ordinarily preferred claims, and other obligations may be made preferred by statute.

Secured creditors are creditors to whom the partnership has pledged assets as security for their obligation. For example, the partnership might turn over to the creditors stock or bonds, or it might assign the accounts receivable or inventory to them. In such cases the secured creditors have the right, if not paid, to sell the security they hold to satisfy their claims. If they realize anything in excess of their claims, this excess must be returned to the partnership, but if they do not realize a sufficient amount to satisfy their claims they become general unsecured creditors for any unpaid balance.

After the claims of the preferred creditors are satisfied and the secured creditors have disposed of the assets they hold, the unsecured claims must be satisfied before the partners are entitled to anything.

Theoretically the partners' claims should be satisfied in the following order:

Partners' salaries
Partners' loans
The balance of partners' capital accounts.

Actually this difference in the order of the settlement of partners' claims is of little importance because of the legal *right of setoff.* By the right of setoff a debit balance in a partner's capital account may be set off against any claim he has against the partnership. If a partner has a

credit balance in his capital account after all the assets are liquidated, his salary or loan will be paid in due course, but if a partner's capital account has a debit balance, this balance will be set off against his loan account or his salary account. Consequently, if there is any likelihood that a partner's capital account will have a debit balance, any other credits to the partner should not be paid in full. *For all practical purposes accounts representing claims of a partner against the partnership may be closed to the partner's capital account when a partnership is liquidated.* To illustrate the liquidation of a partnership, the balance sheet of Smith and Green, who divide profits and losses equally, is given.

Smith and Green

Balance Sheet
May 31, 1941

Inventory		$20,000	Notes Payable	$10,000
Accounts Receivable	$25,000		Smith, Capital	15,000
Less: Reserve for			Smith, Loan	5,000
Doubtful Accounts	5,000	20,000	Green, Capital	10,000
		$40,000		$40,000

If the assets were sold for $30,000, the following entries illustrate the closing procedure:

Smith, Loan	$ 5,000	
Smith, Capital		$ 5,000
To close balance of Smith Loan account to his capital account		
Cash	30,000	
Reserve for Doubtful Accounts	5,000	
Realization Profit and Loss	10,000	
Inventory		20,000
Accounts Receivable		25,000
To record the sale of assets		
Smith, Capital	5,000	
Green, Capital	5,000	
Realization Profit and Loss		10,000
To debit partners with loss on liquidation		
Notes Payable	10,000	
Smith, Capital	15,000	
Green, Capital	5,000	
Cash		30,000
To record the distribution of cash		

If the capital account of any partner has a debit balance, the partnership has a claim against the partner for that amount. If the partner does not pay this amount to the partnership, the remaining partners should assume that this amount will be a loss, which they will share in their profit and loss ratio.

Let us consider the following balance sheet of the ABC Partnership:

Assets	$30,000	Notes Payable	$ 5,000
		A, Capital	10,000
		B, Capital	10,000
		C, Capital	4,000
		C, Loan	1,000
	$30,000		$30,000

The partners divide profits and losses equally. The assets were sold for $12,000, that is, a loss of $18,000 was sustained on liquidation. Since profits and losses were divided equally, each partner would be debited $6,000. But this debit of $6,000 is $1,000 more than the total of the C Capital account and the C Loan account. If C does not pay this $1,000 to the partnership, A and B must stand this loss of $1,000. Until C pays this amount, the assumption is made that he will not do so, therefore, the effect of this possible loss upon the capitals of the remaining partners is determined before the cash is distributed. That is, the amount of this possible loss is distributed to the remaining partners A and B in their profit and loss ratio. Debits may actually be made to the capital accounts of A and B and a credit to the C Capital account. If this entry is made, it would be reversed after the cash is distributed, by a debit to the C Capital account and credits to the capital accounts of A and B, and A and B have a legal claim against C for $1,000. The following schedule illustrates the distribution of the loss and of the cash:

	Totals	*Liabilities*	*A Capital*	*B Capital*	*C Capital and Loan*
Balance	$30,000	$5,000	$10,000	$10,000	$5,000
Loss on Liquidation	18,000		6,000	6,000	6,000
	$12,000	$5,000	$ 4,000	$ 4,000	$1,000 Dr.
Division of C's Debit Balance			500	500	1,000 Cr.
	$12,000	$5,000	$ 3,500	$ 3,500	
Cash Distribution	$12,000	$5,000	$ 3,500	$ 3,500	

Another example will help clarify this procedure. The following is the condensed balance sheet of a partnership as of December 31.

Assets	$40,000	Liabilities	$10,000
		X, Capital	15,000
		Y, Capital	10,000
		Z, Capital	5,000
	$40,000		$40,000

If the assets are sold for $22,000, and the partners' profit-sharing ratio is 40 : 20 : 40, the following statement illustrates the distribution of the cash:

	Totals	*Liabilities*	*X Capital*	*Y Capital*	*Z Capital*
Balance, Dec. 31	$40,000	$10,000	$15,000	$10,000	$5,000
Distribution of Loss	18,000		7,200	3,600	7,200
	$22,000	$10,000	$ 7,800	$ 6,400	$2,200 Dr.
Z's Debit Balance			1,467	733	2,200 Cr.
	$22,000	$10,000	$ 6,333	$ 5,667	
Cash Distribution	$22,000	$10,000	$ 6,333	$ 5,667	

Z's share of the loss of $18,000 on the sale of the assets resulted in a debit in his account of $2,200, and before the cash was distributed this debit balance in the Z Capital account was distributed to X and Y on the assumption that Z would not pay this amount. Debits were made to X and Y in their profit and loss ratio of 40 : 20, or 40/60 and 20/60, that is two-thirds to X and one-third to Y.

If the distribution of one partner's debit balance converts another partner's balance into a debit balance, the effect of this new debit balance on the capitals of the remaining partners is determined before the cash is distributed to the remaining partners.

The Sale of a Partnership to a Third Party. When a partnership is sold to a third party, entries are made for the following purposes:

To record any changes in the asset accounts, including the recording of goodwill. The debits and credits are made to the partners' capital accounts, or to a Liquidation Profit and Loss account, which is distributed to the partners' capital accounts.

To debit the purchaser with the assets of the partnership, and to credit the asset accounts.

To credit the purchaser with the liabilities and the reserves and debit these accounts.

To credit the purchaser for the payment he makes. The asset, or assets, received are debited.

To record the distribution to the partners of the asset or assets received. The asset account or accounts are credited, and the partners' capital accounts are debited.

The following is the balance sheet of two partners, Logan and Ryan, who sold the business to William Lane.

Logan and Ryan

Balance Sheet
June 30, 1942

Assets			*Liabilities and Proprietorship*	
Accounts Receivable	$10,500		Accounts Payable	$ 3,500
Less: Reserve for Doubtful Accounts	500	$10,000	Notes Payable	1,000
Inventory		3,000	Logan, Capital	5,000
Delivery Equipment	$ 1,200		Ryan, Capital	4,300
Less: Reserve for Depreciation	400	800		
		$13,800		$13,800

Mr. William Lane agreed to purchase the enterprise for $12,000 cash, which amount is $2,700 greater than the total of the partners' capital

accounts, and is the amount Mr. Lane agreed to pay for the goodwill of the partnership.

An entry is made to record the goodwill of $2,700, which amount is credited to the partners in their profit and loss ratio. Since Mr. Logan and Mr. Ryan shared profits and losses equally, the following entry would be made to record the goodwill:

Goodwill	$2,700	
Logan, Capital		$1,350
Ryan, Capital		1,350
To record goodwill of $2,700		

Sometimes assets like receivables, inventories, and buildings are sold at prices different from their book values. When this is the case, the Liquidation Profit and Loss account may be used, to which the debits and credits would be made for the increases or decreases. The balance of this account would be closed to the partners' capital accounts. In this example, it is assumed no other assets were to be revalued.

After the changes in the asset accounts are recorded the asset accounts are closed and the purchaser is debited. The following entry would be made to close the asset accounts of Logan and Ryan.

William Lane, Purchaser	$17,400	
Accounts Receivable		$10,500
Inventory		3,000
Delivery Equipment		1,200
Goodwill		2,700
To debit William Lane with assets acquired		

The liability and reserve accounts are closed and the purchaser is credited as follows:

Accounts Payable	$ 3,500	
Notes Payable	1,000	
Reserve for Depreciation of Delivery Equipment	400	
Reserve for Doubtful Accounts	500	
William Lane, Purchaser		$ 5,400
To credit liabilities and reserves to William Lane		

The only accounts which now contain balances are the William Lane, Purchaser account and the partners' capital accounts.

When Mr. Lane paid $12,000 cash, the William Lane, Purchaser account would be credited and Cash would be debited as follows:

Cash	$12,000	
William Lane, Purchaser		$12,000
To record payment by William Lane		

The cash is now distributed to the partners in amounts equal to the balances of their capital accounts.

Logan, Capital	$ 6,350	
Ryan, Capital	5,650	
Cash		$12,000
To record the distribution of cash to Logan and Ryan		

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. How may a partnership be terminated?

2. A and B, partners, agree to admit C to the partnership. Does this terminate the original partnership?

3. A and B, partners, admitted C to the partnership. Land which cost the original partnership $5,000 was recorded on the books of the new partnership at $25,000. Can you justify this write-up in the value of the land?

4. A and B with capitals totaling $40,000 agree to admit C to a one-fourth interest in the capital on the investment of $15,000 cash in the business. A and B share profits and losses equally. What entries would you make to record the admission of C?

5. Do you favor the practice of recording goodwill when a new partner is admitted to a partnership?

6. A and B, partners with capitals of $20,000 and $10,000 respectively, share profits in the ratio of their capital accounts. C is admitted to a one-fourth equity in the capital on the investment of $9,000 cash in the partnership. The new capital is to be $39,000. Explain how you would determine the entries to make to record the admission of C and to adjust the capital accounts.

7. B sold his equity of $5,000 in the ABC partnership to D for $8,000 cash. B received the cash. What entry would you make on the partnership books?

8. Has B the right to sell his equity in the ABC partnership to D if A and C object?

9. Explain the following:

Preferred creditors
Secured creditors
Unsecured creditors.

10. What is the right of setoff?

11. The partnership owed C $5,000 on a loan C had made to the partnership. When the partnership is liquidated should this loan be paid before A and B receive any payment on their capital accounts?

12. A and B, partners with capitals of $20,000 and $5,000, respectively, shared profits and losses equally. All liabilities were paid, and the assets of $20,000 were sold for $12,000 cash. How would you distribute this cash?

13. Would a partner always be willing to accept an amount equal to the balance of his capital account when retiring from a partnership?

14. Mr. Wilton Brown, who is retiring from a partnership, argues that goodwill should be recorded on the books and considered in settling with him. Can you justify the recording of goodwill on the books under such circumstances?

15. A, B, and C, partners with capitals of $20,000, $10,000, and $5,000, respectively, share profits and losses equally. All the liabilities were paid. The assets, carried on the books at $18,000, were sold for $12,000 cash. How would you distribute the $12,000 cash?

16. The capital accounts of partners Jones and Miles totaled $15,000. The enterprise was sold to A. E. Gilson. The building owned by the partnership had a book value of $5,000. Mr. Hines agreed to pay $15,000 for the building. How would the

$10,000 difference be divided between the partners? Can you justify Mr. Hines' showing an asset Buildings of $15,000 when the partnership showed it at $5,000?

LABORATORY PROBLEMS

1. Hanford and Howard, partners with capitals of $15,000 and $10,000, respectively, who divide profits and losses equally, agree to admit Herbert to an interest in a new partnership which will have a total capital of $40,000. Makes entries for the admission of Herbert under each of the following agreements:

(a) Herbert invests $15,000 and is to receive a three-eighths interest in the capital.
(b) Herbert invests $10,000 and is to receive a one-fourth interest in the capital.
(c) Herbert invests $15,000 and is to receive a one-fourth interest in the capital.
(d) Herbert invests $15,000 and is to receive a one-half interest in the capital.

2. D. Brazier and W. Marton, partners with capitals of $5,000 and $10,000, respectively, admit Burson to a one-fourth interest in the capital. Profits and losses are divided as follows, 40 per cent to D. Brazier, and 60 per cent to W. Marton. Make journal entries to record the admission of Burson to a one-fourth interest under each of the following agreements:

(a) Burson invests $5,000.
(b) Burson invests $6,000; the new capital is to be $21,000.
(c) Burson invests $6,000, the new capital is to be $24,000.
(d) Burson invests $4,000; the new capital is to be $19,000.

3. The balance sheet of the Williams and Swanson partnership is, in abbreviated form, as follows: assets $15,000, liabilities $3,000, Williams capital $8,000, and Swanson capital $4,000. Profits and losses are divided equally. The assets are to be written up $1,000, after which Jones is to be admitted to a one-fourth interest in the capital on the investment of $5,000. No other changes are to be made in the assets.

Make journal entries to record these transactions.

4. Harmon and Shea, partners, with capitals of $8,000 and $4,000, respectively, divide profits and losses in the ratio of 70:30, respectively. Make journal entries to record the admission of Etzkorn under each of the following agreements:

(a) Etzkorn pays $4,000 to Harmon for a one-third interest.
(b) Etzkorn pays $2,000 to Harmon for a one-third interest.
(c) Etzkorn pays $6,000 to Harmon and Shea for a one-third interest, each to give up $2,000 capital to Etzkorn.

5. A and B, partners, with capitals of $12,000 and $8,000, respectively, shared profits and losses in the ratio of two-thirds and one-third, respectively. They admitted C to a one-fourth interest in the capital and a one-fifth interest in the profits and losses on the investment of $8,000. Make journal entries to record the admission of C under each of the following agreements:

(a) The new capital is to be $28,000.
(b) The new capital is to be $32,000.

6. A and B, partners, share profits and losses in the ratio of 60:40. C is admitted to the partnership and is to receive 25 per cent of the profits and losses. A and B wish to keep their profit-sharing ratio in the same relationship as before. Determine the new profit-sharing ratio of A and B.

7. A and B, partners, with capitals of $30,000 and $20,000, respectively, share profits and losses in the ratio of 75:25. C is to be admitted to a one-third interest in both the capital and the profits. C is to pay an amount that will give him exactly one-third of the new capital. No goodwill is to be recorded.

(a) Determine the payment C must make.
(b) Determine the new profit-sharing ratio of A and B, assuming that the ratio is to remain in the same relationship as before.

8. Smith, Jenks, and Clàgue operated, as partners, a business with assets of $40,000, liabilities of $10,000, and capitals as follows: Smith capital $10,000, Jenks capital $8,000, and Clague capital $12,000. The assets were sold for $32,000 cash. The partners shared profits and losses as follows: 40 per cent to Smith, 40 per cent to Jenks, and 20 per cent to Clague.

Make journal entries to record the liquidation of the partnership, using one account for the original assets and one account for the original liabilities.

9. Wilson, Cole, and Hurl, partners, had assets of $35,000, liabilities of $5,000, and capitals as follows: Wilson capital $10,000, Cole capital $15,000, and Hurl capital $5,000. The partners shared profits and losses as follows: 40 per cent to Wilson, 20 per cent to Cole, and 40 per cent to Hurl. The assets were sold for $15,000, cash.

Make journal entries to record the liquidation of the partnership, using one account for the original assets and one account for the original liabilities.

10. Holly, Cairn, and Houck, a partnership, had assets of $18,000, liabilities of $8,000, Houck loan $1,000, and capitals as follows: Holly capital $5,000, Cairn capital $3,000, and Houck capital $1,000. The assets were sold for $12,000 cash.

Make journal entries for the liquidation of the partnership.

11. Harper and McGraw, partners, had the following assets and liabilities: cash $5,600, inventory, $7,000, accounts receivable $5,000, buildings and equipment $6,500, accounts payable $2,500, reserve for depreciation $2,500, and reserve for doubtful accounts $400. The balances of the partners' capital accounts were as follows: Harper capital $10,000, McGraw capital $8,700. The inventory was sold for $7,500 cash, $4,400 was collected on the receivables, and the buildings and equipments were sold for $4,200 cash. Profits and losses were divided in the ratio of 60 per cent to Harper and 40 per cent to McGraw. Make journal entries for liquidation of partnership.

12. Lerich and Clay, partners, had assets of $12,000, liabilities of $4,000, a reserve for depreciation of $2,000, and the following balances in their capital accounts: Lerich capital $1,000, Clay capital $5,000. Profits and losses were divided equally. The assets were sold to the Zeno Corporation for $4,000 cash, and $15,000 of capital stock of the Zeno Corporation.

Make journal entries to record the sale of the assets and the liquidation of the partnership.

13. A and B contribute $10,000 and $2,000, respectively, to start a partnership, and agree to divide profits and losses equally. Neither partner made any additional investments or withdrawals, but B made a loan as shown below. One year later the assets and liabilities were: cash $2,000, inventory $4,000, accounts receivable $3,000, reserve for doubtful accounts $500, notes payable $1,000, B loan $1,500. No division of the profits or losses had been made.

On this date the partners agree to liquidate the partnership. The inventory is sold for $1,000, and the accounts receivable bring only $500 cash.

Make a journal entry to record the distribution of the cash, giving your computation as part of the explanation.

CHAPTER XXX. CORPORATIONS

Nature of a Corporation. *A corporation may be defined as an artificial person created by law, and composed of individuals united in one body under a special name, with the capacity of perpetual succession, and of acting within the scope of its charter as a natural person.*

This legal definition brings out the facts that an ordinary corporation is considered at law to be an artificial person separate from its stockholders, that it is permitted to conduct business under its special name, and that its life can be made perpetual. Since it may do business under a special name it can sue and be sued in that name, and do other things necessary to conduct business as an artificial person. For example, it can acquire real estate and mortgage its property as its purposes require.

Ownership in a corporation is obtained by the purchase of shares of capital stock. The owner of a share of capital stock is called a stockholder. A stockholder who purchased one $100 share of capital stock in a corporation which sold 1,000 such shares would actually be the owner of a 1/1,000 interest in the corporation. As evidence of his ownership he would receive a *stock certificate* which would state on its face that he owned one share of stock in the corporation. An owner can sell his shares to anyone without the permission of the corporation. On the death of a shareholder the ownership of the share is simply changed; the life of the corporation is not affected.

Again, these stockholders are not the corporation. If one person owned all the stock of a corporation he would not be the corporation. Corporate business would be done in the corporate name and not in the name of that individual. The names of the stockholders do not appear on the general ledger as proprietors, the credits for the amounts invested by them in purchasing stock being made to the Capital Stock account.

Formation of a Corporation. Corporations are formed under state statutes (in rare instances Federal statutes). To form a corporation, the incorporators file articles of incorporation with some such public officials as the secretary of the state and the county auditor. If the law is complied with and the filing fee is paid, a charter is issued, or, a copy of the articles of incorporation is used to serve as a charter.

The state statutes require that certain information be included in the

articles of incorporation. The Uniform Business Corporation Act drawn up by a committee of the American Bar Association and adopted, with variations, by several states requires that the following information, in addition to the corporate name, must be given in the articles of incorporation:

The purpose, or purposes, for which the corporation is formed.

The duration of the corporation.

The location and post office address of its registered office in the state.

The total authorized number of par value shares, the par value of each share, and, if any of its shares have no par value, the authorized number of such shares.

A description of the classes of shares (if the shares are to be classified) and a statement of the number of shares in each class, and the relative rights, voting power, preferences, and restrictions granted to, or imposed upon, each class.

The amount of paid-in capital with which the corporation will commence business.

The first directors, their post office addresses, and their terms of office.

The name and post office address of each of the incorporators, and a statement of the number of shares subscribed for by each, which shall not be less than one, and the class of shares for which each subscribes.

The state statutes determine the general rights incidental to all corporations, but each corporation must define its own rights, consistent with the state statutes, in its articles of incorporation. For example, the charter or articles of incorporation will state the purpose for which a corporation is formed. The statement of this purpose is both a statement of rights and limitations. The corporation can conduct the type of business for which it is formed and do all things necessary and incidental to the conduct of that business. But it is limited to these rights; it cannot conduct some other type of business.

In order to provide rules for the conduct of corporate meetings, for officers to follow, and for routine matters, bylaws are adopted by the stockholders (sometimes by the directors). These bylaws must be consistent with both the statutes and the articles of incorporation.

Management of a Corporation. The management of a corporation is vested in a board of directors who are elected by the stockholders. Ordinarily each stockholder has one vote for each share of stock that he owns; thus a stockholder who owns 10 shares of stock has 10 votes, and one who owns 20 shares has 20 votes. The officers who have direct charge of the operations of the business, are elected by the directors. Except when restricted by statutory provisions, the directors have the authority to do whatever is necessary to accomplish the purposes for which the corporation was organized. They may borrow money, mortgage the corporation's property, or do anything, not prohibited, which is considered necessary for the ordinary operations of the business, but beyond this their rights

do not extend. They do not have the right to liquidate the business or to increase or decrease the capital stock of the corporation. These rights are not within the ordinary course of the business.

The majority of the stockholders, acting through the directors, have the right to determine the policies of the corporation, but state statutes usually prescribe a required vote of the stockholders for certain actions such as the increase or decrease of the capital stock, or the change of the objectives of the enterprise. Such changes are made by amendment to the articles of incorporation. The Uniform Business Corporation Act provides for amendments by a vote of two-thirds of the capital stock with voting power. A corporation can be liquidated only by such a majority vote of its stockholders and in such a manner as provided by the laws of the state where it is organized.

Advantages of a Corporation. A corporation is formed because of certain advantages to be derived from this type of organization. The most important of these advantages are:

Limited liability of stockholders.
The possibility of obtaining capital from a great many people.
Centralized control.
The stability and permanence of the corporate form of organization.

It is probable that the majority of corporations are formed in order to limit the liability of the investors; this is ordinarily limited to the par value of the shares, that is, the amount stated in the articles of incorporation and on the certificates as the value of each share. It is a purely arbitrary amount and means very little. If the corporation receives payment equal to the par value of the shares issued, the stockholders are not ordinarily subject to any further liability. For example, if the corporation received $100 in cash, services, or property for a $100 par value share, the stockholder is subject to no further liability. On the other hand, if a stockholder purchased from the corporation a $100 par value share for $80, he would be subject to a maximum liability of $20.

The corporate form of organization has enabled many enterprises to come into existence that would not otherwise have been able to raise the necessary capital. This is especially true of enterprises such as mines, in which the risks are great. Many people will risk small amounts of money in order to gamble for big profits.

A means of central control is provided by the corporate form of organization. Even though there are hundreds of thousands of stockholders, the management is centralized because the stockholders elect directors who appoint officers to do the actual managing of the corporation.

The existence of a corporation is not affected by changes in the owner-

ship of the shares of stock, or by the death of a stockholder. Except when agreements are made to the contrary, a shareholder may transfer his shares to anyone else. The death of a stockholder simply changes the ownership of the shares, which become part of the estate of the deceased and may be held by the estate or sold. The life of a corporation is for all practical purposes perpetual. Some states limit the life of corporations to a certain number of years, but permit the enterprise to reincorporate at the end of that time.

Disadvantages of the Corporation. The chief disadvantages of the corporation are the special restrictions and taxes placed upon it. State statutes vary as to the restrictions placed by them upon corporations, but in general thay are not onerous. There are certain requirements as to reports to be filed, meetings to be held, etc. In addition the activities of the corporation are limited to the purposes for which it was formed.

The chief disadvantage of the corporate form of organization is the multiplicity of taxes to which a corporation may be subject. Such taxes are, in addition to real and personal property taxes, an annual state fee or tax, and state and Federal income taxes. In addition, social security taxes must ordinarily be paid on salaries up to $3,000 of those stockholders who also serve as executives, whereas they are not paid on the salaries of partners.

Par Value Capital Stock. The amount of the proprietorship interest in a corporation, like that of an individual proprietorship or a partnership, may be obtained by deducting the amount of the liabilities from the amount of the assets. But the amount of the proprietorship of a corporation is divided into two fundamental parts:

1. The Paid-In Capital
2. The Earned Surplus[1]

Both of these may be further sub-divided.

The paid-in capital is the amount paid-in by the stockholders, and would, if the stock were sold for its par value, be shown by the balance of the Capital Stock account. However, as will be explained later par value capital stock is sometimes sold at a discount or premium. To illustrate the recording of paid-in capital let us consider a corporation whose articles of incorporation authorize it to issue 1,000 shares of $100 par value capital stock, a total capital stock of $100,000. If each share was sold to net the corporation $100, and if no other transactions took place, the balance sheet of the corporation would be:

Assets		*Liabilities and Proprietorship*	
Cash	$100,000	Capital Stock	$100,000

[1] "Accounting Principles Underlying Corporate Financial Statements," *The Accounting Review*, June, 1941, p. 137.

If this corporation sold stock of only $60,000 par value the balance sheet would be:

Assets		*Liabilities and Proprietorship*	
Cash	$ 60,000	Capital Stock (Auth. $100,000) .	$ 60,000

The *authorized capital* stock of a corporation is the amount of capital stock, stated in the articles of incorporation, that a corporation is permitted to issue. It is divided into shares each of which, if the corporation has only one class of stock, represents an equal share in the proprietorship of the corporation.

The *capital stock outstanding* is simply that part of the authorized capital stock which is held by stockholders. When 600 out of 1,000 shares, each of $100 par value, are sold, the capital stock outstanding is $60,000. The *unissued capital* stock is that portion of the capital stock that has never been issued to stockholders. It is not, however, *treasury stock*, which is a corporation's own stock which was once issued and has been reacquired by the corporation.

When a balance sheet is made up the amount of the capital stock is shown in the proprietorship section. This is the amount below which the stockholders are not permitted to reduce the proprietorship by dividends. A corporation with assets of $100,000, liabilities of $20,000, a capital stock of $60,000, and a surplus of $20,000 could legally declare dividends of only $20,000. The stockholders are not permitted to withdraw any amounts they desire from the business, as is the owner in an individual proprietorship. They have been granted limited liability, and in order to protect the creditors the state will not ordinarily permit the withdrawal of assets to such an extent that the proprietorship would be decreased to an amount below the capital stock. In other words, dividends may be declared only to the amount of the surplus. If the amount of the proprietorship of a corporation is less than the amount of the capital stock, the capital is said to be impaired. If this happens because losses have been incurred, the stockholders are not subject to any liability if the corporation had originally received payment equal to the par value of the stock.

Surplus. The excess of the total proprietorship over the amount of the capital stock is called the *surplus* of the corporation. If the total of the proprietorship is less than the capital stock, the surplus is negative and is called a *deficit*. A corporation with assets of $100,000, liabilities of $20,000, and an authorized capital stock of $100,000 of which only $50,000 was outstanding, would show a surplus of $30,000.

The balance of the Profit and Loss Summary account of a corporation is closed to an account called Surplus, or Earned Surplus.

Organization Costs. In the organization of a corporation certain costs are incurred, the most common of which are:

The attorneys' fees.
The incorporation fees.
The cost of the stock certificates and special books required.
The charges by the promoters for services rendered.

The articles of incorporation are usually drawn up by an attorney to whom a fee is paid. A fee, which varies with the amount of the capital stock, is also paid to the state when the articles of incorporation are filed. In addition, costs must be incurred for printing stock certificates, stock ledgers, and other books required by law. Another organization cost is that of services rendered by promoters in organizing the corporation. These promoters may be paid in cash or may be given stock of the corporation, the services rendered constituting payment for the stock.

The costs of organizing a corporation may be considered to be the cost to the stockholders of the corporate form of organization, a form of organization from which they receive services, among which is the limitation upon their liability. These costs are ordinarily recorded in an asset account, Organization Costs. Some accountants do not believe that organization costs should be written off since the life of a corporation may be made perpetual. Others favor the conventional practice of writing them off within a reasonable time, often in from 3 to 5 years.[1] When organization costs are written off, they are shown in the section of the profit and loss statement for nonrecurring deductions, or as a deduction from surplus when a combined statement of profit and loss and surplus is made up. The Organization Costs account is shown on the balance sheet in some such section as Other Assets, Intangibles, or Deferred Charges.

When organization costs, such as attorneys' fees of $500, are paid in cash, the entry, in journal form, would be:

Organization Costs	$500	
Cash		$500
To record payment of attorneys' fees of $500		

When capital stock is accepted by the attorneys or promoters in payment for their services, the entry would be like the following:

Organization Costs	$1,000	
Capital Stock		$1,000
To record 10 shares of $100 par value capital stock issued to promoters, see minutes p. 3		

[1] When organization costs are written off the amounts written off are not deductible for income tax purposes.

Opening the Books of a Corporation. The authorized capital stock may be recorded on the books, but ordinarily this is not necessary, no entries being made until capital stock is sold.

When the stock of a corporation is sold for cash, the opening entry or entries are very simple. If William Rice, who formed a corporation with capital stock of a par value of $15,000, deposited this amount in the bank to the credit of the corporation, the only entry required to open the books would be a debit to Cash and a credit to Capital Stock:

Cash	$15,000	
Capital Stock		$15,000
To record payment by William Rice for the authorized capital stock		

If capital stock is subscribed for but not paid for immediately, a more complicated recording procedure is necessary. It is necessary to record:

1. The subscriptions to the capital stock
2. The payment of the subscriptions
3. The issue of the stock.

When subscriptions are received for stock to be issued in the future, a Subscribers account is debited and a Capital Stock Subscribed account is credited. The credit to the Capital Stock account is not made until the stock is issued. When the payments are received from subscribers, the Cash account is debited and the Subscribers account is credited. When payment has been received in full, the stock is issued, and at that time an entry is made to debit Capital Stock Subscribed and credit Capital Stock.

For example, when a corporation is formed with a capital stock of 5,000 shares of $100 par value, 300 of which are subscribed for at par but not paid for, the entry to record the subscriptions would be:

(1) Subscribers	$30,000	
Capital Stock Subscribed		$30,000
To record subscriptions to 300 shares of $100 par value stock		

When the subscribers to capital stock of a par value of $10,000 paid their subscriptions in full, an entry would be made as follows:

(2) Cash	$10,000	
Subscribers		$10,000
To record payment in full by subscribers to $10,000 par value capital stock		

When the stock was issued the following journal entry would be made:

(3) Capital Stock Subscribed	$10,000	
Capital Stock		$10,000
To record issue of capital stock of $10,000 par value		

If the subscribers made partial payments, entry (3) would not ordinarily be made until they had paid their subscriptions in full.

The Subscribers account is debited when subscriptions to capital stock are obtained. There is a distinction made at law between actual subscriptions to capital stock and an agreement to subscribe to capital stock. A subscription to capital stock constitutes a contract between the stockholder and the corporation, whereas the agreement to subscribe to capital stock does not. In some states the subscriber to capital stock obtains all the rights of a stockholder; he need not wait until he has paid for his stock in order to obtain the right to dividends and the right to vote. When this is so, the stock is usually issued when the subscriptions are received unless it is agreed to the contrary.

The Subscribers account is an asset unless the corporation does not intend to collect the balance of the account. When an asset, it may be shown on the balance sheet as a current asset or under some special heading. If the balances due from the subscribers are to be paid within one year, the account may properly be considered a current asset, but not an account receivable. If the balances are to be collected over a period of time greater than one year, part or all of the amount may be shown in some such classification as Other Assets. In some instances the Subscribers account should be deducted from the Capital Stock. This is done when it is not the intention to collect the balances from subscribers, and when the paid-in capital cannot be otherwise shown.

The Capital Stock Subscribed account is a temporary account opened only because the stock has not been issued. When the stock is issued, the balance of this account is closed by a debit to Capital Stock Subscribed and a credit to the Capital Stock account. On the balance sheet, the Capital Stock Subscribed account is shown as an addition to the Capital Stock.

Discount on Capital Stock. Capital stock sold for less than its par value is said to be sold at a discount. One of the fundamental ideas generally held in the evolution of corporation law has been that par value capital stock should be sold for at least its par value. If it were not, the purchaser of the stock might be held liable for the discount. The idea was to provide a basic fund of assets, equal to the par value of the capital stock outstanding, for the protection of the creditors.

The statutes of the different states now prescribe the liability of the stockholders, and the great majority either prohibit the sale of par value stock at a discount or provide that the stockholder may be held liable for the discount. On the other hand a few states, either permit the sale of par value stock at a discount, or permit such sales under some circumstances. The statutes of Maryland, Virginia, and West Virginia provide that the

stockholder is subject to no further liability if he complies with the terms of his contract with the corporation. This means that a stockholder who agrees to pay $80 for a share of $100 par value is subject to no further liability if he pays the $80. California, Rhode Island, Indiana, and Ohio permit such sales under some circumstances.[1]

For the protection of the creditors, there seems to be little reason to hold stockholders liable when stock is sold at a discount for cash, and under the common law the courts had to stretch their reasoning considerably to do so. Creditors deal with the corporation, not because of the par value of its stock, but because of its assets and liabilities, its credit standing, and its management. They are not defrauded, deceived, or misled by the sale of stock at a discount. Protection of certain stockholders is probably more important than the protection of creditors.[2]

To illustrate the recording of par value stock at a discount let us assume that capital stock of a par value of $50,000 was sold for $45,000 cash. The following entry would be made to record this transaction:

Cash	$45,000	
Stock Discount	5,000	
Capital Stock		$50,000
To record the sale of $50,000 par value capital stock for $45,000.		

This transaction might have been recorded by a debit to Cash of $45,000 and a credit of $45,000 to the Capital Stock account, and if this were done the books would provide the correct data on the paid-in capital. However, because of the possible discount liability and because many states require that par value capital stock be recorded at par value the discount is entered on the books.

On the balance sheet of a corporation the accountant shows the par

[1] The California statute contains the following provision: "The value of the consideration to be received by a corporation for the issuance of shares having par value shall be at least equal to the par value thereof; provided, however that the corporation may issue at less than par, as fully paid up, shares having par value . . . if the board of directors determine that such shares cannot be sold at par value. . . ."

In Rhode Island the incorporators can set a minimum price below par value, above which shares can be sold with no discount liability.

The Indiana statute contains the following provision: "Shares of stock having a par value may be issued for an amount of consideration not less than par value thereof, unless the articles of incorporation provide that such shares may be sold at less than their par value, in which case such shares may be issued for such consideration as may be fixed from time to time by the board of directors in accordance with such provision."

Ohio permits corporations which have been organized for two years or more and which cannot sell shares at par value to sell them at a discount without the discount liability.

The English Companies Act of 1929 permits corporations when organized for more than one year to sell at a discount, stock of a class already issued, when authorized by the directors, approved by the court, and the sale is made within one month after the sanction of the court has been obtained.

[2] See H. W. Ballantine and C. L. Stirling, Jr., *California Corporation Laws*, Parker & Baird Company, Los Angeles, 1938, pp. 67–69.

value of the capital stock from which he deducts the discount to obtain the paid-in capital, as follows:

Capital Stock	$50,000
Less: Stock Discount	5,000
Paid-In Capital	$45,000

Stock discount is often shown on the balance sheet in some classification such as Intangibles, Deferred Charges, or Other Assets. However, it is not an asset in any sense of the word; it is not going to be converted into cash, nor is it a cost of a service. Moreover the corporation has no legal claim for the discount if it agreed to sell the stock for less than its par value. This amount can only be recovered when it is needed to prevent loss to the creditors.

Stock discount is usually written off soon after a substantial surplus is accumulated. This is another traditional practice in accounting of which there is little need. When this is done the paid-in capital cannot be shown on the balance sheet. Stock discount is usually written off under the assumption that the write-off to surplus is the equivalent of payment of the discount by the stockholders. As will be explained later in this chapter, this is very unlikely to be so held by courts.

The entries are a little more complicated when capital stock is subscribed for at a discount. For example, capital stock of a par value of $50,000 is subscribed for at $40,000; later subscribers to one-half of the stock pay their subscriptions in full and receive their stock. When the subscriptions were received an entry would be made to debit Subscribers $40,000, to debit Discount on Capital Stock Subscribed $10,000, and to credit Capital Stock Subscribed $50,000, as follows:

Subscribers	$40,000	
Discount on Capital Stock Subscribed . .	10,000	
Capital Stock Subscribed		$50,000
To record subscriptions to capital stock of par value $50,000 at $40,000.		

When one-half of the subscribers paid $20,000 and received their stock the usual entries would be made, as follows:

Cash	$20,000	
Subscribers		$20,000
To record payment of subscriptions		
Capital Stock Subscribed	$25,000	
Capital Stock		$25,000
To record issue of capital stock of $25,000		

However, an additional entry should now be made to record the discount on the capital stock for which the agreed payment has been received.

This entry is a debit to Stock Discount and a credit to Discount on Capital Stock Subscribed, as follows:

Stock Discount	$5,000	
Discount on Capital Stock Subscribed		$5,000
To record discount on capital stock paid for		

The proprietorship section of the balance sheet would be made up as follows:

Proprietorship:			
Capital Stock	$25,000		
Less: Stock Discount	5,000		
Paid-In Capital		$20,000	
Capital Stock Subscribed	$25,000		
Less: Discount on Capital Stock Subscribed	5,000	20,000	
Total Capital Paid In and Subscribed			$40,000

Premium on Capital Stock, Paid-In Surplus. A successful corporation may sell some of its capital stock for more than its par value, and the excess so realized is called *premium on capital stock*, or *paid-in surplus.* Capital stock of $100,000 par value sold for $110,000 cash would be recorded as follows:

Cash	$110,000	
Capital Stock		$100,000
Paid-In Surplus		10,000
To record the sale of capital stock of $100,000 par value for $110,000.		

The paid-in surplus is shown on the balance sheet as an addition to the capital stock in order to show the paid-in capital:

Proprietorship:	
Capital Stock (Auth. $100,000)	$100,000
Paid-In Surplus	10,000
Paid-In Capital	$110,000

When subscriptions are received for capital stock at a premium, the premium should be credited to an account Premium on Capital Stock Subscribed. For example, subscriptions are received for capital stock of $100,000 par value at $110,000; later subscribers to one-half of the capital stock paid their subscriptions and received their stock. The first entry would be made in the usual way except that the credit for the premium is made to an account Premium on Capital Stock Subscribed, that is as follows:

Subscribers	$110,000	
Capital Stock Subscribed		$100,000
Premium on Capital Stock Subscribed		10,000
To record subscriptions to $100,000 par value capital stock at $110,000		

When the payment is received and the stock issued the following entries would be made:

Cash	$ 55,000	
Subscribers		$ 55,000
To record payment by subscribers		
Capital Stock Subscribed	50,000	
Capital Stock		50,000
To record issue of capital stock		

An entry is then made to record as paid-in surplus the premium actually paid in to the corporation. This portion of the premium is now recorded as follows:

Premium on Capital Stock Subscribed	$5,000	
Paid-In Surplus		$5,000
To record premium paid on capital stock		

The proprietorship section of the balance sheet would be made up as follows:

Proprietorship:			
Capital Stock	$50,000		
Paid-In Surplus	5,000		
Paid-In Capital		$55,000	
Capital Stock Subscribed	$50,000		
Premium on Capital Stock Subscribed	5,000	55,000	
Total Capital Paid In and Subscribed			$110,000

Most accountants do not believe that it should be permissible to charge dividends on common stock to paid-in surplus. They believe that both the creditors and the stockholders as a whole are better protected if such a practice is forbidden. There have been many instances where corporations have misled stockholders by paying what were assumed to be dividends from earnings but which were actually distributions of paid-in capital. However, many states permit such dividends, consequently it is not uncommon to see paid-in surplus shown on the balance sheet as an addition to surplus. This topic will be discussed again in Chapter XXXII.[1]

Payment for Capital Stock in Assets Other Than Cash. The capital stock of a corporation may be paid for:

In money
In personal services
In other property (assets other than money or personal services).

When the consideration received for capital stock is property or services other than cash, the accountant usually has little control over the valuation placed upon the property or services, as this depends upon the law of the state. Courts have followed two rules for the valuation of assets other than cash received in payment for capital stock:

The good faith rule
The *bona fide* value rule, or the true value rule.

[1] There are occasions when it may be proper to charge dividends on preferred stock to a Paid-In Surplus account. A discussion of this topic is left for more advanced courses.

The good faith rule has been the more widely followed, but has been differently interpreted by different courts. Some have held that in the absence of fraud any valuation agreed upon by the directors was proper. Others have held that, even if there was no fraudulent intent, intentional overvaluation of assets is sufficient reason for holding the consideration insufficient and the stockholders liable for the deficiency.[1]

Under the *bona fide* value rule, or true value rule, good faith, motive, or intent is not sufficient. Subscribers, to avoid liability, must show that the property was the equivalent in money of the par value of the shares. This does not mean that an asset such as goodwill may not be recorded as payment for capital stock when an operating business is purchased, but it does mean that the amount must be reasonable. This rule may be stated in brief as follows: that the valuation placed upon considerations other than cash must be that of a prudent businessman acting in his own interests.

When stock has been issued for overvalued assets, the stock is said to be *watered.* Such stock has really been issued at a discount. Watered stock has been quite common because of the fact that some courts have been willing, in the absence of fraud, to accept excess valuations that the directors place upon assets other than cash received in exchange for capital stock.

The issuing of watered stock can and should be avoided. If a newly organized corporation purchased an existing business enterprise, a reasonable valuation should be placed upon the assets of the original business, and if any goodwill is included, it should be recorded on the books at a reasonable valuation. The following statement of Sanders, Hatfield, and Moore suggests a reasonable procedure to follow:

> It is much to be desired that such transactions should be stated on something approaching a cash basis, as is evidenced by a reasonable appraisal of the present sound values of the properties. Accounting statements which misrepresent the values cannot now be regarded as satisfactory standard accounting principles. The valuation may properly include an amount representing an estimate of future earnings above the normal rate. But this factor should be stated separately as an intangible asset.[2]

When property other than cash is received in exchange for capital stock, the entries are similar to those already explained, the consideration received being simply debited to these other asset accounts. To illustrate, let us consider the receipt of merchandise valued at $3,000 and a building valued at $7,000 in exchange for capital stock of $10,000 par value. The subscription to capital stock would be recorded by a debit to Subscribers and a credit to Capital Stock (or to Capital Stock Subscribed), as follows:

[1] See *American Jurisprudence,* The Lawyers Cooperative Publishing Co., Rochester, N. Y. 1938, Sec. 559, pp. 575–76.

[2] Sanders, Hatfield, Moore, *A Statement of Accounting Principles,* American Institute of Accountants, New York, 1938, p. 60.

Subscribers	$10,000	
Capital Stock		$10,000
To record subscriptions to $10,000 par value stock		

The payment by the subscribers is recorded by debits to the asset accounts and credits to the Subscribers account as follows:

Inventory	$3,000	
Buildings	7,000	
Subscribers		$10,000
To record payment made by subscribers		

The corporation may sometimes receive payment for its capital stock by taking title to the assets and assuming the liabilities of an operating enterprise. For example, The Parent Co. and The Junior Co. made an agreement under which The Parent Co. agreed to issue $100,000 of par value stock to The Junior Co., and assume the liabilities of The Junior Co. in exchange for the assets and the goodwill of The Junior Co. Under such an agreement The Junior Co. is considered to be a subscriber to $100,000 par value stock of The Parent Co., which it pays for by transferring its assets and liabilities to The Parent Co. The entry to record the subscription of The Junior Co. would be as follows:

Subscribers	$100,000	
Capital Stock		$100,000
To record subscription of The Junior Co. to $100,000 par value stock		

As payment for its capital stock the corporation enters the assets received (and usually the reserves) and the liabilities, the net amount being the payment received. The assets, reserves, and liabilities of The Junior Co. were to be recorded by The Parent Co. at the following amounts: Accounts receivable $33,800, inventory $26,700, buildings and equipment $50,000, reserve for doubtful accounts $1,600, reserve for depreciation of buildings and equipment $10,400, notes payable $5,000, and accounts payable $15,800. The net amount of the assets exclusive of goodwill is $77,700, and the goodwill of The Junior Co. was valued at $22,300. The following entry is made to record the payment by The Junior Co. of its subscription to the capital stock of The Parent Co.:

Accounts Receivable	$33,800	
Inventory	26,700	
Building and Equipment	50,000	
Goodwill	22,300	
Reserve for Doubtful Accounts		$ 1,600
Reserve for Depreciation of Buildings and Equipment		10,400
Notes Payable		5,000
Accounts Payable		15,800
Subscribers		100,000
To record payment by The Junior Co. of its subscription; minutes, p. 50		

The entry on the books of The Parent Company is the same whether The Junior Co. is an individual enterprise, a partnership, or a corporation.

It is sometimes stated that the writing off of stock discount to surplus is the equivalent of the payment of the discount. It is doubtful if this is so except under unusual circumstances. In the case of Russel *v.* Tennessee and Kentucky Tobacco Co., decided in July 1933, it was stated that it was well established that the law was as follows.[1]

> A corporation free from indebtedness, if acting in good faith, has the power as between itself and the stockholders, all of the stockholders therein to agree in consideration of the surrender by the stockholders of its accumulated profits and of the increased value of its property to treat stock on which only 50 per cent has been paid as fully paid up stock, and the corporation cannot afterward disturb such an arrangement, either for its own behalf or on behalf of subsequent creditors with notice.

This statement of the law was taken by the court from the old case of Kenton Furnace R and Manufacturing Co. *v.* McAlpin[2] in which the stock was 50 per cent paid. It was further stated that this was held to be the law in order to avoid a needless exchange of checks—the corporation would pay a dividend and the stockholders would send their checks to the corporation in payment of the discount on the stock. In the Russel *v.* Tennessee Tobacco Co. case it was decided that, although the corporation had a surplus greater than the amount of the stock discount, the stockholders were liable for the discount because the corporation was not free from indebtedness and no agreement had been made by the stockholders to give up the accumulated profits.

If courts continue to follow these decisions, and there is no evidence that they will not do so, it would appear that they would require that the write off of stock discount, to be the equivalent of payment for the capital stock, must at least be supported by a formal agreement between all the stockholders that agree to give up their claims to that part of the surplus.

Installment Payments for Capital Stock. Subscription agreements sometimes provide that the payment for capital stock be made in installments, which may be due on specific dates, or when the subscriber is notified to make the payment. In the latter case a "call" is said to be made. It is not essential that a record be made of each installment or call, but it is usually desirable to do so in order to show conveniently the response to the call.

If a call is made to subscribers to pay subscriptions of $50,000, an entry is made to debit the Installment No. 1 account (or Call No. 1), and to credit the Subscribers account, as follows:

[1] Russel *v.* Tennessee & Kentucky Tobacco Co., 65 S. W. 2nd 256, July 29, 1933.
[2] 5 Federal 737.

Installment No. 1	$50,000	
Subscribers		$50,000
To record Installment No. 1.		

When the payments are made by the subscribers, the amounts are credited to the account Installment No. 1. If the entire amount of the installment is paid, entries are made which are the equivalent of the following journal entry:

Cash	$50,000	
Installment No. 1		$50,000
To record payment of Installment No. 1.		

When Call No. 2 is made, the entry would be:

Installment No. 2	$50,000	
Subscribers		$50,000
To record installment No. 2.		

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. In what way is a corporation different from an individual proprietorship?

2. Mr. H. B. Sims and A. S. Hart own all the stock of the Mountain States Corporation. Mr. Hart and Mr. Sims sold a building owned by the corporation to T. W. Means. Both Mr. Sims and Mr. Hart signed the bill of sale. Was this a legal sale?

3. What are the articles of incorporation? The charter?

4. What type of information do states require to be included in the articles of incorporation?

5. What is the purpose of the bylaws of a corporation?

6. Why are corporations formed?

7. Are there any disadvantages to the corporate form of organization?

8. Explain the following:

Authorized capital stock	Surplus
Capital stock outstanding	Premium on capital stock
Unissued capital stock	Paid-in surplus
Treasury stock	

9. What does par value mean?

10. When may a corporation legally pay a dividend?

11. What costs are incurred in organizing a corporation?

12. Should the costs of organizing a corporation be considered to be an asset?

13. Give the entries to record the following: the subscriptions to capital stock, the payment by the subscribers, and finally the issue of the capital stock.

14. What is meant by the term *discount on capital stock?*

15. How would you show discount on capital stock on the balance sheet?

16. Present an argument against the writing off of stock discount.

17. If stock discount is written off by debits to Surplus, do you think this is the equivalent of payment by the stockholders of the amount of the discount, thereby relieving the stockholders of the discount liability?

18. In what ways may capital stock be paid for?

19. If capital stock of a par value of $50,000 and a market value of $40,000 is

issued in payment for a building, what are three possible valuations at which the building might be recorded? Which do you favor?

20. Explain the terms *good faith rule* and *bona fide value* rule.

21. Make up the proprietorship section of the balance sheet from the following: unissued capital stock $25,000; capital stock outstanding $50,000; capital stock subscribed $25,000; subscribers $20,000; discount on capital stock $10,000.

LABORATORY PROBLEMS

1. (a) The Mettalo Corporation was formed with an authorized common stock of 500 shares of $100 par value each, of which 100 are purchased by J. H. Murphy, 100 by Geo. Hunter, and 200 by J. H. Freney. All of the shares were purchased at par value and were paid in full. Legal fees of $75 were paid, and an incorporation fee of $65 was paid. Make journal entries to record these transactions.

(b) The Amco Corporation was formed with an authorized capital stock of $100,000 made up of 1,000 shares of $100 par value stock. R. T. Jones subscribed for and paid for 100 shares at $80 per share. At a corporation meeting it was agreed to give the promoters 100 shares for the services they had rendered. Various expenses incurred in the formation of the corporation amounted to $500 and were paid. Make journal entries to record the preceding transactions.

(c) The Artproof Co., an operating corporation, sold 1,000 shares of its capital stock, par value $50, for $60,000 cash. Make a journal entry to record the sale of stock.

(d) The Southern Paper Corporation was organized with a capital stock of 10,000 shares of $5 par value. Promoters received 2,000 shares for their services. The remainder of the stock was subscribed for at $30,000. Subscribers to $10,000 par value stock paid $7,500 and were given their certificates. Make journal entries to record these transactions.

2. The Orinoco Corporation was formed with a capital stock of 1,000 shares each of $100 par value, of which 300 were subscribed for at 90, 200 at 95, and 300 at par. Subscribers to the first 300 shares paid their subscriptions in full and were issued their certificates, the remaining subscribers paid 20 per cent of their subscriptions. An attorney accepted 100 shares in payment for the services he had performed in forming the corporation.

(a) Make journal entries to record the above transactions.

(b) Post the above entries to T accounts.

(c) Make up a balance sheet for the corporation, assuming that the unpaid subscriptions will be paid within one year.

3. (a) On February 1, the Irwing Products Corporation was formed with 5,000 shares of $5 par value stock. Stock was sold as follows: 1,000 shares on February 10 at $4 a share, 1,000 shares on March 3 at $5 a share, and 1,000 shares on April 5 at $6 a share. The promoters were given 1,000 shares on May 5. Make journal entries to record the transactions.

(b) The XY Corporation was authorized to issue 1,000 shares of $50 par value common stock. Subscriptions to 700 shares were received at $60 a share. Subscribers to 50 per cent of the stock paid their subscriptions in full and received their stock. Make journal entries to record the transactions.

4. The Ironrock Steel Co. was authorized to issue 5,000 shares of $100 par value common stock. The promoters advanced $4,000 to the corporation. Attorneys' fees of $2,500 were paid, and the attorneys were given 500 shares of the capital stock for the services they rendered. Incorporation fees of $500 were paid to the state. The

Western Bank Note Co. was paid $800 by the promoters for making a plate and printing stock certificates.

Mr. Brown, who had owned the mine, was issued 2,000 shares in payment for the mine. Mr. Brown had been asking $100,000 for this ore body, but accepted, instead of cash, 2,000 shares of the stock of the Ironrock Steel Co.

The Mining Brokers, Inc., sold 2,000 shares for $200,000; a check for $180,000 was received from Mining Brokers, Inc. This check was for $200,000 less commission of $20,000. The promoters were paid and given 500 shares for services.

A contract was awarded to A. J. Kelzer to construct a small plant for $150,000. A payment of $50,000 was made to Mr. Kelzer.

(a) Make journal entries to record the preceding transactions.

(b) Post the above entries to T accounts.

(c) Make up a balance sheet for the Ironrock Steel Co. as of July 1, 1942, the day after the last of the preceding transactions.

(d) Comment upon the assets shown on this balance sheet.

5. The Thompson Manufacturing Co. was organized with a capital stock of 10,000, $50 par value shares of common stock. On June 8, 1942, Mr. J. L. Lilly purchased 5,001 shares at $40 a share, paying cash.

During July, subscriptions were obtained for 4,000 shares at $42 per share. On September 1, subscribers to 1,000 shares paid their subscriptions in full and were issued their stock.

(a) Make journal entries to record the preceding transactions.

(b) Post the preceding entries to T accounts.

(c) Make up a balance sheet as of September 2, 1942.

6. The Consolidated Manufacturing Co. was formed with an authorized capital stock of $100,000 of $100 par value shares. Subscribers agreed to pay $8,000 for stock of $10,000 par value. Stock of $20,000 par value was issued for a building considered to have a fair market value of $12,000. Stock of $5,000 par value was issued to attorneys for the services they had rendered in forming the corporation. The Wall Street Finance Co. agreed to sell the remainder of the capital stock for its par value for which they would receive a commission of 10 per cent. The Wall Street Finance Co. sold the stock and turned the proceeds less the commission over to the Consolidated Manufacturing Co. Of the subscribers to $10,000 par value stock, subscribers to stock of $3,000 par value paid the subscription price and received their stock, and subscribers to $4,000 par value stock paid 50 per cent of the subscription price.

(a) Make journal entries to record these transactions.

(b) Post the entries to T accounts.

(c) Make up a balance sheet of the Consolidated Manufacturing Co. after the preceding entries have been posted.

7. The A. M. Myers Co. was authorized to issue 1,000 shares of $100 par value common stock. On April 2 subscriptions were received for the 1,000 shares at $100 per share. The subscribers agreed to make payments as follows:

On May 1, 25 per cent of the subscriptions
On August 1, 25 per cent of the subscriptions
On November 1, 25 per cent of the subscriptions
On February 1, 25 per cent of the subscriptions.

On April 15, an entry was made to record the first installment to be paid on May 1.

During May and June, subscribers to 925 shares paid the 25 per cent of their subscriptions. The unpaid subscriptions were canceled on July 12.

On July 15, an entry was made to record the second installment. During August subscribers to 900 shares paid the second installment.

Make the entries to record these transactions.

8. Herman Blyth is the owner of a service station, for which the following are the balance sheet accounts: Cash $500, Inventory $750, Accounts Receivable $150, Equipment $1,800, Prepaid Insurance $24, Accounts Payable $325, Taxes Payable $115, H. Blyth Proprietorship $2,784. Mr. Blyth had an attorney make out the articles of incorporation for a corporation to take over this business.

Open the corporation books by recording the following: The corporation was formed with a capital stock of 40 shares of $100 par value. Mr. Blyth subscribed for 30 shares, Mrs. Blyth for 1 share, and A. B. Blyth for 1 share, a total of 32 shares. The assets were to be recorded at the amounts shown above. Subscriptions were made at par value. Mrs. Blyth and A. B. Blyth were to pay for their stock later. Mr. Herman Blyth wishes his stock to be shown as fully paid.

9. Green and Brown are partners with total assets of $15,000, liabilities of $3,000, and the following proprietorship accounts: Green Capital $8,000, and Brown Capital $4,000. They share profits and losses in the ratio of 60 per cent to Green and 40 per cent to Brown. They formed the Nebro corporation to take over the business. The assets are appraised at a value of $18,000 and are to be recorded at this amount on the books of the corporation. The corporation is formed with a capital stock of $20,000 par value shares made up of 200 shares, 150 of which are issued to the Green and Brown partnership.

(a) Make the journal entries to close the books of the partnership, using one account Assets and one account Liabilities for the asset and liability transactions.

(b) Make journal entries to open the books of the corporation.

10. Smith and Williams were partners with the following balance sheet accounts: Cash $3,500, Inventory $4,200, Accounts Receivable $3,300, Building and Equipment $7,500, Prepaid Expenses $300, Notes Payable $1,000, Accounts Payable $2,000, Reserve for Doubtful Accounts $300, Reserve for Depreciation $2,500, Smith Capital $8,000, Williams Capital $5,000. Williams and Smith shared profits and losses in the ratio of 2/5 and 3/5, respectively. The inventory is to be recorded at $5,000 on the books of the corporation; the accounts receivable at $2,500 net; the building and equipment at $7,000, net. The Smith Williams corporation is formed with $20,000 par value stock all of which is to be issued to the partnership.

(a) Make the entries to close the books of the partnership.

(b) Make the entries to open the books of the corporation.

11. Mr. Elton Simms owned a small grocery store, the balance sheet of which was as follows on December 31, 1942:

Assets		*Liabilities and Proprietorship*	
Cash	$ 400	Accounts Payable	$ 500
Merchandise	1,600	Elton Simms, Proprietorship	2,000
Prepaid Insurance	50		
Supplies	30		
Fixtures	420		
	$2,500		$2,500

Mr. Simms filed articles of incorporation for the Simms Quick-Service Store, which provided for a capital stock of 220 shares of $10 par value, a total of $2,200. Mrs. Simms purchased 10 shares for which she paid $100 cash; Mr. A. E. Sykes, an attorney,

subscribed for 10 shares. Mr. Simms subscribed for 200 shares for which he paid by turning over to the corporation the assets and liabilities of the grocery store.

The following payments were made by the corporation:

$75 to Mr. Sykes for services rendered in forming the corporation.
$50 to the state for the incorporation fee.
$100 for stock certificates.

Make journal entries to open the books of the Simms Quick-Service Store.

12. Mr. P. E. Wyart owned the Wyart Restaurant, the balance sheet of which was as follows on June 1, 1942:

Assets		*Liabilities and Proprietorship*	
Cash	$ 965.00	Accounts Payable	$ 795.40
Supplies on Hand	111.60	Contracts Payable	2,290.10
Equipment	5,396.40	P. E. Wyart, Proprietorship	3,387.50
	$6,473.00		$6,473.00

Mr. Wyart had a good business but had been adding equipment so rapidly that he had difficulty meeting obligations. T. E. Traer agreed to provide $3,000 cash if a corporation were formed to take over the enterprise. The following agreement was reached:

A corporation was to be formed with a capital stock of $15,000 made up of 150 shares of $100 par value. This corporation was to be known as the Wyart-Traer Restaurant.

Since the enterprise had been profitable, goodwill of $5,000 was to be brought on the books of the Wyart Restaurant and credited to P. E. Wyart Proprietorship account.

Mr. Wyart was to subscribe for 83 shares of a par value of $8,300. Mr. Wyart was to withdraw $87.50 in cash from the Wyart Restaurant, and was to pay for his stock by turning over the assets and liabilities of the restaurant to the corporation.

Mr. Traer was to subscribe to stock of a par value of $4,000 for which he agreed to pay $3,000, which he paid.

The remainder of the stock was to remain unissued with Mr. Wyart and Mr. Traer, each having the privilege to subscribe for one-half of it at par value, provided the subscription is made within 3 years.

Make the entries to open the books of the corporation assuming that all the transactions, except the subscriptions to the additional stock, were made as agreed.

CHAPTER XXXI. CORPORATIONS (*Continued*)
No Par Value Stock, Preferred Stock, Treasury Stock, Special Corporate Records

No Par Value Capital Stock. Instead of par value capital stock, or in addition to it, the articles of incorporation may provide for the issue of a certain number of shares of stock of no par value. This type of stock, which is comparatively new (it could not be issued under the common law), was received with considerable acclaim. It was favored because it supposedly overcame the major disadvantages of par value stock, one of which was the misleading impression that the par value of the share often created, the impression that the share was really worth the par value. Actually the par value means very little; a share of $100 par value may be worthless. But many people who knew little about corporations thought that when they bought a share of stock they were receiving something of the value printed on the stock certificate. Consequently, it was maintained that par value shares made it easy for dishonest promoters to defraud the public, and that the sale of no par value shares would result in the buyers making a more thorough investigation of the enterprise. That this has been the result is questionable.

No par value stock has not been free from abuses, and has at times been used in a manner unfair to both stockholders and creditors.

In order to demonstrate how no par value stock has been used to the detriment of creditors we must first briefly examine the methods of recording this type of stock. The usual statutory provisions regarding the credits for payments received for no par value stock are:

1. The capital stock account is to be credited with the amounts received for the capital stock.
2. The directors may decide that a certain stated amount per share, such as $1, is to be credited to the Capital Stock account, the balance being credited to the Paid-In Surplus account.
3. The stock must have a certain minimum stated value per share.
4. The total value of the capital stock must be stated in the articles of incorporation.

All of these methods except the first, under which the capital stock is recorded at the amounts received for it, place a sort of par value upon the capital stock, and permit the recording of a paid-in surplus. For example,

no par value capital stock sold for $100,000 cash might be recorded by a debit of $100,000 to Cash, a credit of $25,000 to Capital Stock, and a credit of $75,000 to Paid-In Surplus. In many states dividends may be legally charged to this surplus, consequently it may disappear almost overnight to the detriment of the creditors.

What has been of even more importance has been the fraud sometimes perpetrated in various ways upon stockholders through the use of no par value stock. In some instances, dividends have been paid and debited to a Paid-In Surplus account opened when no par value stock was sold. In this way the stockholders were given the impression that the enterprise was prosperous, and then were sold more stock. The fact that the stock could be sold at different prices also made possible the defrauding of certain stockholders. Some stock would be sold to the public at one price and a large portion of the stock, sometimes the majority, would be sold to the promoters or their friends at a much lower price. The stockholders who paid the higher price might be able to set aside such sales at the lower price, but first they must find out about them, and then incur the expenses of legal action.

Consequently, it is questionable whether no par value stock has contributed much to the protection of investors. Some authorities, both in accounting and in law, believe the abuses resulting from this type of stock may be greater than those resulting from par value stock.[1] It is not improbable that par value stock, although subject to abuses, may give both the creditors and the stockholders more protection than that provided by no par value stock.

Recording No Par Value Stock. If the no par value stock is to be recorded at the amount received, and if sales are made of 1,000 shares at $5 a share, 1,000 shares at $7 a share, and 1,000 shares at $10 a share, entries would be made as follows:

Cash	$ 5,000	
Capital Stock		$ 5,000
To record the sale of 1,000 shares at $5 per share		
Cash	7,000	
Capital Stock		7,000
To record the sale of 1,000 shares at $7 per share		
Cash	10,000	
Capital Stock		10,000
To record the sale of 1,000 shares at $10 per share		

[1] H. W. Ballantine, "Non Par Stock—Its Use and Abuse," 57 *American Law Review*, 233. Bonbright, "Dangers of No Par Shares," 24 *Columbia Law Review*, 449.
See also Robert S. Stevens, *Handbook on the Law of Corporations*, West Publishing Company, St. Paul, 1936, pp. 704–706.

If a corporation is authorized to issue 1,000 shares of no par value stock in a state the laws of which provide that it shall have some stated value, such as $5 per share, and if the entire capital stock of 1,000 shares were sold for $25,000, the entry to record the sale, unless the directors decided to allot a larger amount to capital stock, would be:

Cash	$25,000	
Capital Stock		$ 5,000
Paid-In Surplus.		20,000
To record the sale of 1,000 shares of capital stock at $25 per share		

And if the enterprise were incorporated in a state in which the law provided that a corporation with only no par value stock must state an initial capital of at least $500, the entry to record the sale, unless the directors decided to allocate a larger amount to capital stock, would be:

Cash	$25,000	
Capital Stock		$ 500
Paid-In Surplus.		24,500
To record the sale of 1,000 shares of capital stock at $25 per share		

Accountants do not favor statutes that permit dividends to be charged to paid-in surplus. Such surplus is really paid-in capital, and, as previously explained, both the stockholders and creditors may be misled or injured when corporations are permitted to pay dividends from paid-in capital. More will be said about this in Chapter XXXII.

Preferred Stock. In addition to common stock, a corporation may issue preferred stock, stock which is usually given certain privileges and subjected to certain restrictions. The usual privileges given preferred stock over common stock relate to dividends and to the distribution of assets in the event of liquidation. The usual restriction placed upon preferred stock is the elimination of the voting right. Whatever the restrictions are, they are stated in the agreement under which the stock was issued and usually on the face of the certificate.

If neither the state statute nor the articles of incorporation provide for the issue of preferred stock, the corporation has no right to issue such stock without the consent of the holders of common stock. This is only fair to the holders of common stock, for obviously the issue of preferred stock might affect the portion of the earnings going to each common stockholder. The right to issue preferred stock under certain circumstances is usually given corporations by state statutes.

The rights of preferred stockholders are a matter of contract between the corporation and the stockholders, the terms of which should be stated fully on the preferred stock certificate. This stock may be cumulative or noncumulative, participating or nonparticipating, preferred or not pre-

ferred as to assets on dissolution. The holders of cumulative preferred stock are entitled to dividends for each year before dividends on the common stock can be paid, whereas holders of noncumulative stock are ordinarily entitled to dividends only when declared. If the dividend on noncumulative preferred stock is not earned and paid in a particular year, that dividend need not be made up. Holders of participating preferred stock are entitled to participate with the common stockholder in the payment of any dividends paid after the regular dividends on both the preferred and common stocks, whereas holders of nonparticipating stock are not so entitled. Holders of stock preferred as to assets on liquidation are entitled on liquidation of the corporation to payment in full before the common stockholders are paid, but if the stock is not preferred as to assets on liquidation, the stockholders are not so entitled.

Recording Preferred Stock. Preferred stock is recorded exactly like common stock except that the name Preferred Stock is used instead of Capital Stock or Common Stock. Par value preferred stock of $100,000, sold for $100,000, would be recorded as follows:

Cash	$100,000	
Preferred Stock		$100,000
To record the sale of $100,000 par value preferred stock		

If the stock is sold for $90,000, the entry would be:

Cash	$ 90,000	
Discount on Preferred Stock	10,000	
Preferred Stock		$100,000
To record the sale of preferred stock of $100,000 par value for $90,000		

When preferred stock is subscribed for but not to be issued until later, a series of entries would be made similar to those made for common stock on page 532.

No par value preferred stock is recorded like no par value common stock.

Treasury Stock. The treasury stock of a corporation is the corporation's own stock which was once issued but has been reacquired by the corporation. It should not be confused with the unissued capital stock of a corporation, which is that part of the authorized stock which has never been issued. Some accountants restrict the term treasury stock to stock that was once issued as fully paid and later reacquired. This distinction is made because stock which has been issued as fully paid and then reacquired by the corporation may be resold at a discount without subjecting the purchasers to the discount liability. At law no such distinction is made; treasury stock is considered to be the corporation's own stock, whether

fully paid or not, that has been sold and later reacquired by the corporation.

One may question the propriety of permitting a corporation to acquire its own stock. Certain dangers are present when this is permitted, notably the possibility of defrauding both the creditors and some of the stockholders. A corporation approaching insolvency may buy back the stock of a stockholder, or group of stockholders, thereby reducing the assets so that little is left for the creditors. Even if there is enough left for the creditors, certain stockholders may be defrauded by this practice, as stock of certain stockholders may be purchased by the corporation at a price well above its market value, thereby leaving little or nothing for the remaining stockholders. Consequently, the courts carefully scan such transactions in case of suit. In the United States, corporations have generally been held to have the right to purchase their own stock, if acting in good faith and if no one (creditors or stockholders) is injured by the transactions. Today there is considerable sentiment in favor of restricting such purchases to the amount of the surplus of the corporation, and some states have laws to this effect.[1] This increases the protection afforded the creditors and stockholders but does not completely prevent the abuses mentioned.

A corporation may reacquire its own stock in the following ways:

By donation
By purchase
In the settlement of a debt.

When a corporation's own stock is donated to the corporation by stockholders, this is usually done to enable the corporation to sell the stock to obtain working capital. More will be said about this in the section of this chapter on Donated Surplus.

A corporation may purchase its own stock for different reasons. A block of stock may be purchased on especially favorable terms, thereby improving the position of the remaining stockholders. And a corporation may also purchase its own stock in order to maintain a market for the stock.

Courts have always permitted a corporation to accept its own stock in the settlement of a debt to the corporation.

Treasury stock should not be shown on the balance sheet as an asset. This is often done in practice, but there is little justification for it. It is absurd to claim that shares in themselves are assets of corporations. It is true that no great harm is done if a corporation like General Motors shows treasury stock as an asset, as the amounts acquired are usually small and have a ready market. But this is not necessary, since the stock can just as

[1] In California, except when stock is purchased for retirement, the purchase of a corporation's own shares is restricted to its *earned* surplus.

easily be deducted from the capital stock. To the argument that treasury stock may be as easily converted into cash as any other current asset, the answer may be made that the same may be true of unissued stock and it has long been agreed that unissued stock is not an asset.[1]

Many accountants prefer to record treasury stock at its par value when purchased, any difference between par value and the purchase price being debited or credited to Paid-In Surplus. Treasury stock of $10,000 par value purchased for $7,000 cash is recorded as follows:

Treasury Stock	$10,000	
Cash		$7,000
Paid-In Surplus		3,000
To record the purchase of 100 shares of treasury stock		

If the treasury stock is sold for $8,000 cash, the following entry is made:

Cash	$8,000	
Paid-In Surplus	2,000	
Treasury Stock		$10,000
To record the sale of treasury stock		

The treasury stock of a par value of $10,000 purchased for $7,000 may be shown on the balance sheet as follows:

Proprietorship:		
Capital Stock (Auth. $500,000)		$300,000
Paid-In Surplus		3,000
		$303,000
Less: Stock Discount	$60,000	
Treasury Stock	10,000	70,000
Paid-In Capital		$233,000

The following is an example of the proprietorship section of a corporation which has more than one type of stock outstanding:

Proprietorship:			
Preferred Stock (Auth. $500,000) Outstanding			$300,000
Common Stock (Auth. $400,000) Outstanding		$200,000	
Less: Stock Discount	$10,000		
Treasury Stock	30,000	40,000	160,000
Paid-In Capital			$460,000
Surplus			250,000
Total Proprietorship			$710,000

As already explained, some state statutes restrict the purchase of treasury stock to amounts equal to the surplus, and restrict the payment of dividends to the amount of the surplus less the amount paid for the treasury stock. When this is the law an additional entry is desirable. When treasury stock is purchased for $7,000, an additional entry would be made

[1] Ballentine and Stirling, *op. cit.*, p. 183: "Treasury shares are no more an asset than authorized but unissued shares."

to debit Surplus and credit Reserve for Treasury Stock Purchased, as follows:

Surplus	$7,000	
Reserve for Treasury Stock Purchased		$7,000
To reduce Surplus by cost of treasury stock		

When the treasury stock is sold, this entry is reversed.

Donated Stock. A corporation's own stock may be donated to the corporation by a stockholder. Large stockholders have made donations of stock to corporations for the good of the corporation, and stockholders have also made donations of stock in the process of promoting corporations.

In the promotion of many corporations, the entire issue of capital stock, or a large portion of it, is subscribed for by the holder of a patent, a mine, or some other property, and in payment for the capital stock the title to the patent or mine is transferred to the corporation. Part of the capital stock is then donated to the corporation, and this stock is usually sold below its par value without subjecting the purchasers to the discount liability, as the stock is considered to have been paid for by the property which had been transferred to the corporation.

For example, let us assume that capital stock of a par value of $1,000,000 is sold to E. Ernst, who will pay for the stock by transferring to the corporation his rights to a patent. The following entry would be made to record this transaction:

Patents	$1,000,000	
Capital Stock		$1,000,000
To record payment for par value stock of $1,000,000 sold to E. Ernst		

If Mr. Ernst donated stock of a par value of $400,000 to the corporation, an entry would be made to record the treasury stock and the donated surplus:

Treasury Stock	$400,000	
Donated Surplus		$400,000
To record the donation of capital stock of $400,000 par value		

Since it is the intention to resell the stock, the surplus realized on the transactions will not be known until the stock is sold. If the stock is sold for $300,000, the entry to record the sale would be:

Cash	$300,000	
Donated Surplus	100,000	
Treasury Stock		$400,000
To record the sale of treasury stock of a par value of $400,000 for $300,000		

The sale of the treasury stock brought the corporation $300,000 cash. The donated surplus is now $300,000.

Although the stock was sold at a discount, the purchaser is not likely to be held liable for the discount since it was once considered paid for in full. This practice, which is simply a subterfuge to evade the discount liability, is not so common now as it was before the issue of no par value stock was generally permitted.

The Securities and Exchange Commission considers such a donation of stock as evidence that the property received by the corporation was overvalued, and instead of the credit to Donated Surplus, it requires that the credit be made to the property account. When Mr. Ernst donated capital stock of $400,000 to the corporation, the following entry would have to be made:

Treasury Stock	$400,000	
Patents		$400,000
To record the donation by Mr. Ernst of capital stock of $400,000 par value		

This is a realistic policy, but it still permits the evasion of the discount liability. The consideration received in payment for the capital stock may still be inadequate since courts have generally been quite willing to accept the valuation the directors place upon patents, mines, and the like, because of their indeterminate value.

No Par Value Treasury Stock. No par value treasury stock is ordinarily best recorded at cost. If no par value treasury stock is purchased for $3,000 cash, the following debit and credit would be made:

Treasury Stock	$3,000	
Cash		$3,000
To record purchase of certificates 115, 130, and 140, 3,000 shares at $1 a share		

The treasury stock is deducted from the capital stock on the balance sheet to obtain the paid-in capital. The objection is sometimes raised to this method that the amount of the treasury stock might be greater than the original paid-in capital. For example, the original paid-in capital might be $5,000 and the treasury stock $8,000. The result obtained by deducting the treasury stock from the paid-in capital would then be negative. But if the result is negative, there is no sound reason why it should not be so shown.

Other methods suggested are to record no par value treasury stock at the price for which it was sold or to record it at an average price.

Treasury stock donated to a corporation is best recorded at a nominal value such as $1, or by a memorandum entry of the number of shares made in a treasury stock account. The donation of 1,000 shares of no par value treasury stock may be recorded as follows:

Treasury Stock	$1	
Donated Surplus.		$1
To record donation of 1,000 shares of no par value treasury stock		

Bonus Stock. Stock, usually common stock, is sometimes given as a bonus to the purchasers of preferred stock or bonds. If one share of $100 par value common stock is given with the purchase of each $100 par value share of preferred stock, an entry is made to record the sale of one share of preferred stock and the issue of the bonus stock. This entry is a debit to Cash, a debit of $100 to Stock Discount (or Bonus Stock), and a credit of $100 to Common Stock and a credit of $100 to Preferred Stock:

Cash	$100	
Stock Discount	100	
Common Stock		$100
Preferred Stock		100
To record sale of 1 share of preferred stock and bonus of 1 share of common		

Special Books of a Corporation. The special books of a corporation are:

The stock certificate book
The stock ledger
The stock transfer book
The minute book.

Large corporations may supplement these with still other related records.

The Stock Certificate Book. Ownership in the corporation is represented by shares, and evidence of such ownership is the stock certificate illustrated on page 555. The certificate contains the shareholder's name and, in addition to other information relative to the stock issue, the number of shares he owns. The stock certificate book is a book of certificates with their stubs. After a certificate is made out, properly signed, and the seal affixed, it is sent to the stockholder. The stub remains in the certificate book.

The stub ordinarily contains the shareholder's name, the number of the certificate, the number of shares represented by the certificate, space for the name of the individual who was the former owner on record, the number of the former certificate, and the number of shares represented by the original certificate.

On the opposite page is an illustration of a stock certificate.

Ownership in the company is usually transferred by the seller of stock assigning his certificate to the buyer. An assignment form is on the back of the certificate, and the transferor and witnesses sign their names in the spaces provided. The transferee (the party to whom the stock is transferred) usually sends the certificate to the corporation so that it may be canceled and a new certificate issued in his name. The corporation pastes

STUB	STOCK CERTIFICATE
No.______	No.______ Capital Stock $100,000 ______ Shares
For ______ Shares	consisting of 1,000 shares of a par value of $100 each
Issued to ______	Incorporated under the laws of the State of Washington
Date ______	BURTON, ARNOLD, INC.
Transferred from ______	This Certifies that ______ is the owner of ______ shares of the Capital Stock of BURTON, ARNOLD, INC., transferable upon the books of the Corporation by the owner hereof in person or by attorney upon surrender of this certificate properly indorsed. In witness whereof the seal of the Corporation and the signatures of its authorized officers are hereby attached.
Date ______	
Certificate Canceled	
Number : Shares	
Received Certificate	Seattle, Wash., ______ day of ______, 19___
No.______	
For ______ Shares	Seal ______ Treasurer ______ President
this ______ day of ______, 19___	

the canceled certificate to the stub after mutilating it so that it cannot be reissued. A new certificate with a new number is then made out in the transferee's name, or several certificates, each for part of the total number of shares, may be made out for him at his request.

The stubs with no certificates attached represent the outstanding stock; and the total of the shares listed on these stubs should equal the total shares represented by the Capital Stock account.

Legal ownership of the stock is not determined by the name of the certificate holder on the corporation's books. The person whose name appears on the books may have sold his rights to someone else who has not sent the certificate in to be transferred.

The Stock Ledger. Although the stock certificate stubs contain the names of all the stockholders of record, the holdings of any one stockholder might be hard to determine from these stubs since his certificates might be scattered throughout the book. To meet this deficiency in the records a stock ledger is usually used.

The stock ledger provides in one place a record of the stock issued to each individual. The forms of stock ledgers are fundamentally the same;

each stockholder's account is credited with the shares issued to him and debited with the shares surrendered by him to be transferred to others.

For the stock issued to a stockholder, his account usually provides space for the date, the name of the person transferring the stock, the certificate number, the number of shares, and the balance. For the stock surrendered, space is provided for the date, the name of the transferee, the certificate number, and the number of shares. Reference space is provided for the page number of the stock transfer journal.

The total of the shares to the credit of all the stockholders should equal the total shown on stubs of the certificate book. An illustration of a form of account in the stock ledger follows:

W. J. Armstrong

Date	To Whom Transferred	Certificate Surrendered	R	No. Shares	Date	From Whom Transferred	Certificate Number	R	No. Shares	Balance

The Stock Transfer Journal. A stock transfer journal may be used as a book of original entry for the stock ledger. This book, however, is not always used, the entries often being made direct to the accounts in the stockholders ledger. Sometimes statutes require the use of this book.

Stock Transfer Journal

Date	Transferor	R	Certificate		Transferee	R	Certificate	
			No.	Shares			No.	Shares
May 15	A. B. Davis	16	194	100	H. B. Sears	8	215	100
May 18	A. J. Curtis	25	135	200	R. Doel	33	216	100
					A. Miller	34	217	100

The name of the person surrendering the certificate, the number of the certificate surrendered, and the number of shares surrendered are shown, as are the name of the transferee, the number of the new certificate or certificates, and the number of the shares for which each new certificate was issued. Columns are provided for the ledger page numbers. In the above illustration A. J. Curtis transferred 200 shares, 100 shares to R. Doel and 100 to A. Miller.

The Minute Book. The minute book, which is the official record of the corporation, usually contains a copy of the charter or articles of incorporation. It is a record of the actions taken by the directors and stockholders at their meetings. Thus, it contains the bylaws and resolutions passed by the owners and the directors of the corporation. The minute book usually provides much useful information for the accountant.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What is no par value stock?

2. The articles of incorporation authorized the issue of 100,000 shares of no par value stock. If this stock had no stated value and was sold for $300,000, what entry would you make to record the sale? If the stock had a stated value of $1 a share, how would you record the sale?

3. What are the advantages claimed for no par value stock?

4. Support the argument that par value stock may provide the stockholders with as much protection as no par value stock.

5. How might no par value stock be used to virtually defraud some stockholders?

6. Explain the following terms:

Preferred stock	Noncumulative preferred stock
Cumulative preferred stock	Participating preferred stock

7. Preferred stock of a par value of $100,000 is sold for $90,000 cash. Give the entry to record the sale.

8. Preferred stock of a par value of $500,000 is sold for $550,000 cash. Give the entry to record the sale. Does the premium on the preferred stock belong to the preferred stockholders?

9. Cash of $50,000 is received for 10,000 shares of no par value preferred stock of no stated value. Give the entry to record the sale.

10. Cash of $50,000 is received for 10,000 shares of no par value preferred stock of a stated value of $30,000. Give the entry to record the sale.

11. Do you think corporations should be permitted to reacquire their own stock?

12. In what ways may a corporation reacquire its own stock?

13. Mr. Alton invented a process for producing aluminum from certain clays. The process had proved successful in the laboratory but had never been tried on a commercial scale. Mr. Alton formed a corporation with 1,000,000 shares of $1 par value stock. He subscribed for the entire issue of stock, for which he paid by turning over to the corporation the title to his patents. He then donated 400,000 shares of the capital stock to the corporation. The corporation sold these shares at 50 cents each. Would the purchasers of this stock be liable for the difference between the price they paid for the stock and its par value?

14. A corporation purchased its stock of $5,000 par value for $4,500. Make the entries to record this transaction under the following circumstances:

(a) The stock is recorded at par value.

(b) The stock is recorded at par value, but the state statute restricts the purchase of treasury stock to the amount of the surplus.

15. If treasury stock of $10,000 is purchased for $9,000 and recorded at par value, would you credit Surplus $1,000? If this stock is sold for $9,500, what entry or entries would you make?

16. Treasury stock of a par value of $8,000 is donated to the corporation. How would you record this transaction?

17. Should treasury stock ever be shown as an asset?

18. How would you record the purchase by a corporation of 3,000 shares of its own no par value stock for $6,000? The stock was sold for $5 a share. All of the no par value stock was sold at an average price of $4 a share.

19. Explain the following:

A stock certificate	A stock transfer journal
A stock ledger	A minute book

20. Auditors obtain the total number of shares shown on the stubs in the stock certificate book. With what would they compare this total?

21. The Emerson Corporation received stock certificate number 504 for 100 shares which had been made out to Mr. Sykes. This certificate was indorsed by Mr. Sykes. Mr. A. E. Jones, who sent in the certificate, asked that two certificates for 50 shares each be sent to him. One of the certificates was to be made out to A. E. Jones and the other to S. W. Jones. Explain each step that you would take in recording and disposing of the old certificate and in recording and issuing the new certificates.

LABORATORY PROBLEMS

1. The articles of incorporation stated that the capital stock of the Miles Wholesale Co. was to consist of 20,000 shares of no par value stock. Shares were issued as follows:

May 6 1,000 shares at $6 per share.
May 25 1,000 shares at $7 per share.
June 28 5,000 shares at $8 per share.
June 29 500 shares were given to Earling Smith, attorney, for the services he rendered in the formation of the corporation.
July 28 5,000 shares were given to A. B. Jones for a building valued at $30,000.

Make journal entries to record these transactions.

2. The articles of incorporation stated that the capital stock of the Mack Manufacturing Co. was to consist of 10,000 shares of $100 par value preferred stock, and 10,000 shares of no par value common stock.

8,000 shares of the preferred stock were sold for $750,000 cash.
1,000 shares of the preferred stock, and 5,000 shares of the no par value stock, were given in exchange for a factory valued at $120,000.
50 shares of the preferred stock were given in exchange for land valued at $4,000.
3,000 shares of the no par value stock were issued to the promoters for the services they rendered.

Make journal entries to record the preceding transactions.

3. (a) The articles of incorporation of the Building Supply Co. permitted the Building Supply Co. to issue 10,000 shares of no par value stock of a total stated value of $1,000. Shares were sold as follows:

Shares Sold	*Price per Share*
500	$1.00
600	$2.00
300	$1.50
800	$1.75

Make journal entries to record these transactions.

(b) The articles of incorporation permitted the Wentworth Production Co. to issue 100,000 shares of no par value stock of a stated value of $1 per share. Stock was sold as follows:

5,000 shares at $1.25 per share.
4,000 shares at $1.00 per share.
6,000 shares at $1.50 per share.

Make journal entries to record these transactions.

4. The articles of incorporation of the Gaels Stratton Co. gave this company the right to issue 1,000 shares of $100 par value preferred stock. On June 8, subscriptions were received for 800 shares at $90 per share; the stock was to be paid for on September 1. On September 1, subscribers to 400 shares paid their subscriptions in full and received their stock, and subscribers to 200 shares paid 50 per cent of their subscriptions but were not issued their stock. Make journal entries to record the preceding transactions.

5. The articles of incorporation authorized the Naples Exploration Co. to issue 1,000,000 shares of $5 par value class A common stock, 1,000,000 shares of class B, and 2,000 shares of 8 per cent, $100 par value preferred stock. Stock was issued as follows: 100,000 shares of class A par value stock were issued to Harold Blye for mining property owned by him and valued at $500,000. 50,000 shares of class A par value stock were issued to Wilton Bros., brokers, for the services they rendered in forming the corporation and in making the deal with Mr. Blye. 10,000 shares of the class A par value stock and 100,000 shares of the no par value class B stock were issued to the promoters for the services they rendered. 200,000 shares of the class A common stock were sold for $1,000,000 cash. 500 shares of the preferred stock were sold for $80 a share. Make journal entries to record the preceding transactions.

6. The Harmon Corporation was formed with an authorized capital stock of $100,000 par value preferred shares and 10,000 shares no par value common stock. Preferred stock of $40,000 par value was sold for $30,000 cash. Preferred stock of $20,000 par value, and 2,000 shares of no par value stock, were given in exchange for a building with an appraised value of $23,000. Attorneys' fees of $200 were paid, and preferred stock of $1,000 par value was given to the attorneys. An incorporation fee of $50 was paid. Make journal entries to record these transactions.

7. The AB Corporation was formed with a capital stock of $50,000 par value preferred stock, and 1,000 shares of no par value stock. Attorneys' fees of $200 were paid out of $1,000 advanced by the promoter to the company. The promoter received $5,000 par value preferred stock for his services. Stock certificate books were purchased for $100 cash. An incorporation fee of $75 was paid. Subscriptions were taken for preferred stock of $10,000 par value for $9,000. Cash of $2,000 was received for 200 no par value shares. Preferred stock of $5,000 par value was issued in payment for a building. Make journal entries for all the above transactions.

8. The NYX Corporation was formed with a capital stock of 1,000 shares of $100 preferred stock, a total of $100,000, and 5,000 shares of no par value stock. Subscriptions were received for 600 shares of the preferred stock, at $80 per share. One hundred shares of preferred stock were issued to the promoters for the services they rendered. One hundred shares of preferred stock and all the no par value stock were issued for a building with a market value of $15,000. Subscribers to 200 shares of preferred stock paid $16,000 cash to the corporation and received their stock; these subscribers were among those who subscribed for 600 shares.

(a) Make journal entries to record the above transactions.

(b) Post to T accounts.

(c) Make up a balance sheet after the above entries have been made.

9. Jones, Green, and Brown formed the Westco Corporation with a capital stock of 5,000 shares of no par value common stock, and 5,000 shares of $10 par value preferred stock. The promoters received 300 shares of the preferred stock and 1,000 shares of the no par value common stock for their services. One thousand shares of preferred stock were sold for $8 a share, cash, and 500 shares of common stock were sold

for $5 a share, cash. One thousand shares of preferred stock were subscribed for at $8,000. The corporation paid attorneys' fees of $300 for services performed in forming the corporation, and paid the promoters $100 to recompense them for the incorporation fee which they had paid. Of the subscribers to 1,000 shares of preferred stock, subscribers paid in full for 400 shares and received their stock.

(a) Make journal entries to record the above transactions.

(b) Post to T accounts.

(c) Make up a balance sheet after recording these transactions.

10. The Winnette Corporation was formed with a capital stock of 10,000 shares of no par value stock, and $50,000 of $100 par value preferred stock. One thousand shares of the no par value stock were sold at $4 a share, and 500 shares were sold at $6 a share. One hundred shares of the preferred stock were sold for $9,000 cash, 100 for $11,000 cash, and 100 more were subscribed for at $9,600, but the stock was not issued. Promoters were given 50 shares of the preferred stock and 1,000 shares of the no par value stock for services they had rendered, and which were considered to have a value of $8,000. Subscribers to one-half of the preferred stock subscribed for at $9,600 paid their subscriptions in full and were given their stock. Attorneys' fees of $500 were paid, and an incorporation tax of $100 was paid. Fifty shares of par value stock and 500 shares of no par value stock were issued for a building which had a market value of $8,000, and on which a mortgage of $2,000 which was outstanding was assumed by the Winnette Corporation.

(a) Make journal entries to record the above transactions.

(b) Post to T accounts.

(c) Make up a balance sheet after recording these transactions.

11. (a) A corporation with capital stock outstanding of $100,000 and a surplus of $25,000 purchased its own capital stock of $50,000 par value for $40,000 cash. Make the entry for the purchase of the treasury stock, and prepare the proprietorship section of the balance sheet after the stock was acquired.

(b) This treasury stock was sold for $45,000. Make the entry to record the sale, and prepare the proprietorship section of the balance sheet after the sale.

(c) A corporation with capital stock outstanding of $500,000 and a surplus of $200,000 paid $55,000 for its own capital stock of $50,000 par value. Make the entry to record this purchase, and prepare the proprietorship section of the balance sheet after the purchase.

(d) The treasury stock of part (c) was sold for $52,500 cash. Make the entry to record the sale, and prepare the proprietorship section of the balance sheet after the sale.

12. (a) A corporation acquired 8,000 shares of its own no par value stock at $8 a share, 4,000 shares at $9 a share, 3,000 shares at $10 a share, and a director donated 1,000 shares to the corporation. Make the entries to record this treasury stock.

(b) Mr. R. G. Gold, owner of a mine, transferred the title to the mine to a corporation in return for 1,000,000 shares of $1 par value capital stock. Of this stock, he donated stock of $600,000 par value to the corporation; 400,000 of these shares were sold for $280,000 cash. Make the entries to record these transactions and prepare a balance sheet after these transactions were completed.

CHAPTER XXXII. SURPLUS, DIVIDENDS, AND RESERVES

Surplus. The surplus of a corporation is the excess of the total proprietorship over the total of the capital stock, or, stated another way, it is the excess of the assets over the total of the liabilities and the capital stock. The surplus is not, as many people suppose, cash, nor is it any particular asset. Let us consider the following condensed balance sheet of the XY Corporation:

Assets		*Liabilities and Proprietorship*	
Cash	$ 40,000	Liabilities.	$100,000
Other Assets	500,000	Capital Stock	200,000
		Surplus	240,000
	$540,000		$540,000

The surplus of the XY Corporation is $240,000, but the corporation has cash of only $40,000.

When the amount of the liabilities and capital stock of a corporation exceeds its assets, a *deficit* is said to exist. This deficit is shown on the books by a debit balance in the Surplus account, and is ordinarily the result of losses sustained by the corporation.

Dividends. *A dividend by a corporation is a distribution of assets or equities in the assets of the corporation to its stockholders.* Generally dividends are paid in cash as a means of distributing the profits to the stockholders. However, a dividend may be paid to distribute capital, either while the corporation is operating, or while it is in the process of liquidation. Capital of an operating company is usually distributed when the corporation has a paid-in surplus or a surplus recorded as the result of the reduction of capital stock. A distribution of assets of the corporation to the stockholders as the business is being terminated is called a *liquidating dividend.*

The distribution to the stockholder may be:

Of property, usually cash
Of notes payable
Of the corporation's own stock.

Most dividends are paid in cash, but any other divisible property, such as securities held as investments, may be distributed. When stock held as

an investment is distributed as a dividend, some of the stockholders will be entitled to fractional shares, and the corporation will usually substitute cash for the fractional part of a share.

Notes payable or even bonds payable (if their issue has been approved) may be issued to the stockholders as a dividend. When notes payable are issued, the intention of the corporation is to redeem them when funds are available. Such notes payable are called *scrip*, and the dividend is called a *dividend in scrip*. When it is known that funds will later be available with which to pay off the notes, there is no objection to this practice. Scrip is sometimes issued when a corporation is not in financial condition to pay a dividend, but there is seldom justification for this practice.

A corporation may distribute its own stock as a dividend to the stockholders, which is often done when a corporation has unissued stock and a large surplus and wishes to conserve its cash. Such a dividend is called a *stock dividend*.

It is generally stated in accounting that dividends may be paid when the corporation has a surplus, but there are many sources of surplus, and, as will be seen later in this chapter, the laws of different states vary greatly in regard to the legality of dividends chargeable to the different sources of surplus.

Sources of Surplus. Surplus may be classified according to its source as follows:

Paid-In Surplus
- (a) Surplus recorded when the stock was originally sold
- (b) Surplus from treasury stock transactions
- (c) Surplus from the reduction of capital stock

Surplus, or Earned Surplus
Surplus from Appreciation of Assets.

Paid-In Surplus. It has already been explained that surplus, called *paid-in surplus*, may be recorded when par value capital stock is sold for more than its par value or when no par value capital stock is sold for more than its stated value. In addition, there may be other sources of paid-in surplus, such as treasury stock transactions and the reduction of capital stock.

Surplus derived from treasury stock transactions is paid-in surplus.[1] If such transactions result in a surplus of $5,000, this simply means that stockholders have paid in an additional $5,000, and if because of treasury stock transactions a deficit is incurred, the paid-in capital is reduced that amount.

The stockholders, by a vote of the required majority, may reduce the

[1] Under the California law, when treasury shares are sold the entire consideration is to be credited to paid-in surplus except as needed to write off a deficit of net assets below stated capital. See Ballantine and Sterling, *op. cit.*, p. 184.

capital stock of a corporation by means of an amendment to the charter or articles of incorporation, provided it can be shown that the creditors will not be injured by such action. Such a reduction of capital stock may be made for various reasons, but it is frequently done to eliminate a deficit which may have arisen either through operating losses or through the write-down of assets such as goodwill, land, buildings, and equipment which have been carried on the books at amounts considered abnormal. Any surplus arising from such a transaction is also paid-in surplus.[1]

During the years of business recession after 1929, many corporations incurred such heavy losses that deficits resulted, but despite these deficits, many of them were in excellent financial condition. Some had current assets, even cash, well in excess of all the liabilities. However, with a deficit on the books, these corporations could not legally pay dividends; consequently many of them reduced their capital stock in order to record a surplus, so that dividends might be paid as profits were earned.

In the thirties many other corporations recorded deficits by writing down fixed assets. Prior to 1930, many of these corporations, especially those involved in mergers, had acquired properties at inflated values. The properties were often paid for in part by the issue of common stock of the corporation for goodwill and obsolete plant and equipment; consequently the assets were sometimes shown at absurd costs. In writing down these assets deficits were often recorded, and to eliminate such deficits many corporations reduced their capital stock.

Par value capital stock may be reduced in amount by reducing the number of shares, by reducing the par value of each share, or by changing the capital stock to no par value. To illustrate, the XY Corporation had a capital stock outstanding of 10,000 shares of $100 par value stock, or a total par value of $1,000,000, and the books showed a deficit of $300,000. The stockholders agreed to reduce the capital stock to $500,000, which was done by amending the articles of incorporation. The original stock was called in, and the same number of shares of $50 par value were issued. This could also have been accomplished by the issue of 5,000 shares of the same par value, or by a change to no par value stock of a stated value of $500,000. The entry to record the change to 10,000 shares of $50 par value is a debit to Capital Stock, a credit to Capital Stock New, and a credit to Paid-In Surplus:

Capital Stock	$1,000,000	
Capital Stock New		$500,000
Paid-In Surplus		500,000
To reduce number of shares of capital stock from 10,000 shares of $100 par value to 10,000 shares of $50 par value		

[1] See "Accounting Principles underlying Corporate Financial Statements," *The Accounting Review*, June 1941, p. 138.

Earned Surplus. Earned surplus is surplus recorded as the result of the profits of the enterprise. It may include the operating profits, profits on the sale of fixed assets, profit on the sale of investments, and any other profit that is earned by the enterprise.

Surplus from Appreciation of Assets. It was explained early in this volume that there are times when it might be desirable to record, or at least mention in a footnote to the balance sheet, appreciation in the market price of land. It was also stated that ordinarily nothing is gained by writing up or writing down the book value of plant and equipment because of changes in the price level. However, companies engaged in exploiting natural resources can present good arguments for recording unusual increases in the value of their natural resources. When a mining company discovered an entirely new ore body this information would be exceedingly valuable to the various parties in interest, since discoveries of this type are sometimes valued in the millions of dollars. Because the future profits of the company would be very much affected by such a discovery, mere mention of it in the annual report to stockholders is not sufficient. It would be desirable to record the information in such a way that it would be revealed on future statements, which can be done, without misleading anyone by debiting a special asset account and crediting a special surplus account. For example, to record the discovery of a new ore body which has been thoroughly explored and conservatively valued at $2,000,000, the following entry may be made:

Exploration Ore Body	$2,000,000	
Surplus from Ore Discoveries		$2,000,000
To record BBX Extension, estimated 500,000 tons of $8 per ton ore (net $4)		

As the ore body is mined, the depletion is recorded by debiting the Surplus from Ore Discoveries and crediting the Reserve for Depletion account. When the balance in the account Surplus from Ore Discoveries is eliminated, the Reserve for Depletion account should theoretically equal the amount of the asset account Exploration Ore Body.

It should be obvious to the reader that a surplus from appreciation of assets brings no working capital into the business at the time it is recorded. Consequently, accountants believe such surplus should be recorded only in those unusual instances where this is necessary to provide information essential to the stockholders. Such surplus is often said to be *unrealized* surplus as contrasted with the types of surplus previously described.

Surplus on the Balance Sheet. Accountants are not agreed as to how realized surplus should be shown on the balance sheet. However, they are well agreed over unrealized surplus, such as surplus from appreciation of assets; they maintain that it should be shown as a separate item.

As to realized surplus, some accountants believe that all realized surplus, regardless of its source, should be shown on the balance sheet simply as Surplus; others believe that the source of each substantial amount of surplus should be shown; whereas still others believe that surplus should be segregated into two parts, that available for dividends and that not available for dividends. On published statements realized surplus is seldom shown under more than two headings, surplus and capital surplus, under *capital surplus* being included paid-in surplus and all types of surplus other than earned surplus.

Many leaders in accounting thought and some of the leading authorities on corporation law believe that paid-in surplus should be shown on the balance sheet as an addition to capital stock, that is, as part of the paid-in capital. And this is true whether dividends can legally be charged to this surplus or not (some states permit dividends from this surplus and others do not). Such surplus is not the result of a profit or gain of any sort, it is simply paid-in capital. It might be better described as Premium on Capital Stock, or Capital in Excess of Stated Capital.

Proprietorship:		
Capital Stock (Auth. $1,200,000) . .	$1,000,000	
Paid-In Surplus	400,000	
Paid-In Capital		$1,400,000

Ordinarily only one account for surplus from realized profits of an enterprise, called Surplus or Earned Surplus, need be shown on the balance sheet, but there are times when it is desirable to show earned surplus of two types, that arising from recurring profits and that from nonrecurring profits. Recently a shipping company with a long record of losses sold some of its ships at a profit of $900,000 thereby eliminating its deficit and recording a surplus of $400,000. To show such surplus on the balance sheet at $400,000 would, if not misleading, certainly be less informative than if an operating deficit of $500,000 and a surplus of $90,000 from nonrecurring profits were shown as follows:

Earned Surplus:		
Surplus from Nonrecurring Profits . .	$900,000	
Less: Operating Deficit	500,000	$400,000

The following is an illustration of the proprietorship section of a corporation balance sheet showing different types of surplus:

Proprietorship:			
Preferred Stock (Auth. $1,000,000)		$1,000,000	
Common Stock (Auth. $1,000,000) . . .	$1,000,000		
Paid-In Surplus	200,000	1,200,000	
Paid-In Capital		$2,200,000	
Earned Surplus		500,000	
Total Invested Capital		$2,700,000	
Surplus from Appreciation of Assets		300,000	
Total Proprietorship			$3,000,000

Analysis of Surplus. Unless the only entry to the Surplus account is that for the profit of the period, an analysis of the account should be prepared. If dividends have been paid they will have been debited to this account, and there may have been other debits, such as for stock discount written off. A statement of analysis of the Surplus account reconciles the surplus at the beginning of the period with that at the end of the period. An example of such a statement follows:

Statement of Surplus
January 1 to December 31, 1942

Surplus, Jan. 1, 1942			$125,325.50
Add:			
Net Profit, Jan. 1 to Dec. 31, 1942		$46,925.25	
Less: Federal Income Taxes		12,000.00	34,925.25
			$160,250.75
Less:			
Dividends:			
Dividends on Common Stock	$20,000		
Dividends on Preferred Stock	5,000		
		$25,000.00	
Stock Discount Written Off		2,000.00	
Organization Costs Written Off		1,000.00	
Reserve for Contingencies		10,000.00	38,000.00
Surplus, Dec. 31, 1942			$122,250.75

The following is a published statement of profit and loss and earned surplus combined:

Libby, McNeill & Libby

Consolidated Profit and Loss Statement and Earned Surplus Account for the Fiscal Year March 1, 1941, to February 28, 1942 (Consolidating All Domestic and Canadian Subsidiaries)

CONSOLIDATED PROFIT AND LOSS STATEMENT

Net sales (including service revenues)		$104,574,571.51
Cost of goods sold and operating costs		84,394,921.24
		$ 20,179,650.27
Selling, General and Administrative exp.	$8,506,887.87	
Provision for doubtful accounts	30,448.21	
Provision to pension reserve	273,000.00	8,810,336.08
Operating profit		$ 11,369,314.19
Other income:		
Dividends	$ 47,936.30	
Interest	28,562.96	
Miscellaneous	32,817.39	109,316.65
		$ 11,478,630.84
Other charges:		
Interest on funded debt	$417,945.62	
Amortization of debt discount and exp.	33,698.00	
Other interest	20,505.61	
Premium on bonds retired through sinking fund	16,754.94	
Loss on disposal of fixed property, net	208,652.52	

Foreign investments and receiv. written off	$ 399,368.81	
Loss on foreign exchange	17,095.50	
Miscellaneous	9,712.80	$ 1,123,733.80
		$ 10,354,897.04
Provision for income taxes:		
Federal income taxes—		
Provision for current fiscal year:		
Normal income taxes	$2,064,214.31	
Excess profits taxes	3,725,683.35	
	$5,789,897.66	
Additional provision for prior fiscal year	306,740.48	
	$6,096,638.14	
Canadian income taxes	270,960.31	
Other income taxes	112,012.83	6,479,611.28
Net income for the year		$ 3,875,285.76
Appropriation to reserve for contingencies		500,000.00
Amount of net income transferred to earned surplus		$ 3,375,285.76

Depreciation provided during the year amounted to $1,113,312.34.

CONSOLIDATED EARNED SURPLUS

Earned surplus, March 1, 1941, as shown in last annual report to stockholders	$2,244,251.01
Add:	
Earned surplus at March 1, 1941 of Canadian subsidiary now consolidated	522,501.01
Earned surplus, March 1, 1941 (consolidating all Domestic and Canadian subsidiaries)	$2,766,752.02
Amount of net income transferred from consolidated profit and loss statement	3,375,285.76
	$6,142,037.78
Dividends paid on common stock—35c per share	1,269,794.75
Earned surplus, Feb. 28, 1942	$4,872,243.03

The Right to Declare a Dividend. Only the directors have the right to declare dividends. But even though the corporation has a large surplus, the directors are not obliged to declare a dividend if they believe that the funds can be utilized to better advantage by the business. The directors are assumed to be acting in good faith and to the best interests of the corporation, and unless they act in a fraudulent, arbitrary, or oppressive manner, the stockholders cannot compel them to declare a dividend. A large surplus may be evidence of bad faith on the part of the directors, but it alone is not proof. The stockholders have the opportunity to elect new directors annually, and if dissatisfied they may do so.

This opportunity to elect new directors does not solve the problems of the stockholders who are among the minority group in a small corporation. They may be in a very unfortunate position. A few stockholders may elect the directors and have themselves appointed to salaried positions, and the salaries may greatly reduce or even eliminate the profits, with the result that little or nothing will be left for dividends. The minority stockholders have redress at law if fraudulently treated, but in order to obtain this redress they must resort to the courts and prove their case. Fraud, or such

oppressive action as to be the equivalent of fraud, is difficult to prove, and in addition the legal procedure is expensive.

If one is contemplating the purchase of stock in a small corporation to be formed, he should insist that articles of incorporation contain a clause which will prevent some of the stockholders from drawing large salaries to the detriment of others. Donations, extra compensation, and the hiring of relatives should also be covered.

The directors exercise their right to declare a dividend by a formal resolution made at a meeting of the directors. If a dividend is to be paid on par value stock, it is usually stated to be a dividend of a certain percentage of the par value, or of a certain amount per share. A dividend of $6 on shares of $100 par value might be stated to be a 6 per cent dividend, or as a dividend of $6 per share. Dividends on no par value stock are stated to be a certain amount, such as $1, a share.

The Dividend as a Liability. When a dividend is declared, and the stockholders notified, a liability exists. Courts have generally held that the stockholders have the same rights as unsecured creditors when a dividend has been declared but is unpaid when the corporation became insolvent (assuming the dividend was legal when declared). As is true of many major issues in corporation law, there are many conflicting decisions of the courts in regard to dividends. However, it may be stated that generally when sufficient surplus exists a dividend becomes a liability when it is declared and the stockholders are notified.

Entries to Record a Dividend. When the directors have declared a cash dividend an entry is made to debit Surplus and credit an account Dividends Payable. If the directors declared a 6 per cent dividend on capital stock of $1,000,000, the following entry would be made:

Surplus	$60,000	
Dividends Payable		$60,000
To record dividend No. 65, 6% dividend payable Feb. 8. See minutes, p. 56		

Since dividends are almost invariably paid within a year, the Dividends Payable account is shown on the balance sheet as a current liability.

When the dividend is paid an entry is made to debit Dividends Payable and credit Cash, as follows:

Dividends Payable	$60,000	
Cash		$60,000
To record payment of dividend No. 65		

Large corporations ordinarily establish a special fund on which the dividend checks are written. This fund is established in the usual way—a check for the amount of the dividend is deposited in a special bank account

and debited to an account Dividend Fund. Checks on this bank account are made out to the individual stockholders, and when all the checks are cashed the fund is wiped out.

When a stock dividend is declared, an entry is made to debit Surplus and credit Stock Dividends Payable. A stock dividend of $500,000 would be recorded as follows:

Surplus	$500,000	
Stock Dividends Payable		$500,000
To record stock dividend No. 1 of 5,000 shares $100 par value		

When the stock is issued, the following entry would be made:

Stock Dividends Payable	$500,000	
Capital Stock		$500,000
To record issue of 5,000 shares of $100 par value capital stock, certificates Nos. 105–983		

The account Stock Dividends Payable is shown in the proprietorship section of the balance sheet as an addition to the capital stock. It is not a liability, but simply represents a credit in suspense to the Capital Stock account.

A stock dividend does not change the equity of the stockholders; it simply capitalizes part of surplus. When a 100 per cent stock dividend is issued, the number of shares outstanding would be doubled, and each stockholder would hold two shares when he formerly held one, but his equity compared with that of the other stockholders would remain unchanged. The U.S. Supreme Court has recognized this and has ruled that a dividend paid in common stock to the common stockholders is not taxable as income.[1] A dividend payable in bonds or in a different type of stock is taxable to common stockholders. A dividend paid in preferred stock to either the common or preferred stockholders would usually be taxable income, for it would change the equity of these stockholders.

The capital recorded as the result of a stock dividend is considered to be paid-in capital.

Dividends on Preferred Stock. As in the case of common stock, the directors need not declare dividends on preferred stock if they consider it to the best interests of the corporation to do otherwise. This is true even if the dividends are cumulative.

When cumulative dividends on preferred stock are in arrears, the preferred stockholders have a prior claim on surplus for this amount, but this claim is not a liability. The dividends may never be paid, and the corpo-

[1] Eisner *v.* Macomber, 252 U.S. 189. In a recent decision, Helvering *v.* Griffiths, the supreme court stated that, since it was not the intention of Congress to tax stock dividends, stock dividends of certain types were not taxable. However the court did not seem to be very pleased with the law.

ration cannot be forced into bankruptcy if they are not. But before the common stockholders receive any dividends, the preferred stockholders must be paid the dividends in arrears. These dividends in arrears may become so great that there is little likelihood that they will ever be paid, and when this is so a reorganization of the capital structure is likely to take place.

Since knowledge of preferred dividends in arrears may be of great importance to both the common and the preferred stockholders, this information should be presented in some way. *Probably the simplest way to show preferred dividends in arrears is to mention the amount in a footnote to the balance sheet, or an entry may be made to debit Surplus and credit an account Reserve for Preferred Dividends in Arrears.*

Whether preferred stock dividends are cumulative or not depends upon the agreement under which the stock was issued. Unfortunately the agreements are not always clear, and when this is so the courts attempt to determine the intention of the parties. A line of decisions held that the owners of noncumulative preferred stock were entitled to that part of the dividend earned each year before the common stockholders might be paid dividends, that is, if $2 a share were earned during a year on $6 preferred stock, this $2 would cumulate. Recent decisions, however, have been to the contrary. Unless the wording on the stock certificate indicates that it was the intention to make part of the dividends cumulative, it now appears that no portion of the dividend on noncumulative preferred stock is cumulative.[1]

Although it has generally been held that preferred stock is not participating unless otherwise agreed, there have been a few decisions to the contrary.[2]

Legality of Dividends. Since the laws regarding dividends vary in the different states, dividends chargeable to the following accounts will be discussed:

Earned Surplus
Profit and Loss Summary
Paid-In Surplus
Surplus from Appreciation of Assets.

Since it has always been a basic theory of corporation law that a certain capital should be paid in to serve as protection for the creditors, and dividends were to be paid from profits, courts and state laws are pretty well agreed as to the legality of dividends chargeable to Earned Surplus.

[1] See *American Jurisprudence (Corporations)*, The Lawyers Cooperative Publishing Co., Rochester, N. Y., 1938, Sections 693 and 694, pp. 701–703.

[2] *Ibid.*, Section 697, pp. 708–710.

If sound accounting methods have been followed, a dividend to the full amount of the earned surplus is ordinarily legal.[1] However, the amount of the earned surplus may be challenged. The earned surplus is the result of profits, and if the profits have been incorrectly computed the surplus is incorrect. The profits may be incorrect because of the omission of accruals, because of the failure to write off prepaid items, because of errors in depreciation, because of errors in recording capital and revenue charges, etc. Questions may arise as to the propriety of a dividend when stock discount, goodwill, organization costs, and the like are still on the books. Ordinarily if profits have been properly computed, dividends chargeable to earned surplus may be legally paid even if stock discount, organization costs, and goodwill have not been written off. However, there have been conflicting decisions as to whether or not the earned surplus must exceed the amount of the stock discount before a dividend can be legally declared. Some courts have held that dividends can be legally charged only to the surplus in excess of the liabilities and the par value of the capital stock, in which case stock discount must be deducted from surplus to determine the amount of surplus available for dividends.[2]

Ordinarily the depletion of wasting assets need not be deducted from surplus in determining the surplus available for dividends. In other words, if a corporation has been deducting depletion as an expense and crediting the Reserve for Depletion account, the corporation may legally declare a dividend equal to the amount of the earned surplus plus the balance of the Reserve for Depletion account. For example, if the earned surplus of a mining corporation is $100,000 and the balance of the Reserve for Depletion account is $50,000, a dividend of $150,000 may be legally declared, $50,000 of which is debited to a depletion reserve or to a special account for the return of capital. Corporations exploiting natural resources have often declared dividends in amounts greater than surplus, but such a policy is a dangerous one unless the corporation intends to terminate its existence instead of acquiring new properties.

In England and in a few states dividends may be paid and charged to the profits of the preceding accounting period even when there is a deficit

[1] Exceptions are found in those states which restrict the purchase of treasury stock to the amount of the surplus, and in decisions following Cannon *v.* Wiscasset Mills, 195 N.C. 119, in which it was stated, "Both the capital stock, paid in and outstanding, and the company's working capital must be kept intact, and to that end, assets equal in value to the amount of both the capital stock and the working capital must be left and remain in the treasury of the corporation after the payment of a dividend." See *Cyclopedia of the Law of Corporations*, W. M. Fletcher, Callaghan and Co., Chicago, Ill., 1932, Vol. 11, Sec. 5329, p. 825.

[2] Some authorities believe that dividends should not be legal unless the total value of the assets at the time it was proposed to declare the dividend exceeds the amount of its debts and liabilities including among the liabilities the par value of its capital stock. See H. W. Ballantine, *Corporation Law*, Callaghan and Co., Chicago, Ill., 1927, p. 509. Ballantine then goes on to say that this viewpoint is a mistake.

on the books.[1] The statutes of these states contain additional provisions which forbid the payment of dividends if the creditors or holders of shares with preferences in liquidation are likely to be injured. Such statutes can provide just as adequate protection for the creditors and preferred stockholders as do statutes which do not permit this practice. Moreover, such laws recognize what has long been the practice of corporations in good financial condition but with deficits on the books; they simply reduce the amount of the capital stock in order to eliminate the deficit and permit the payment of dividends from profits.

State statutes are not consistent regarding dividends chargeable to paid-in surplus. Some permit such dividends; others do not. Some distinguish between dividends from surplus paid in when the original stock was sold, surplus from treasury stock transactions, and surplus from the reduction of capital stock. Some states permit dividends to be charged to paid-in surplus recorded on the sale of the original shares, whereas others prohibit such dividends on common stock but permit them on preferred stock.[2] The same is true of dividends chargeable to surplus from the reduction of capital stock. The California statute limits such withdrawals to the redemption, purchase, or retirement of preferred shares, or to the declaration of dividends upon preferred stock if more than one class of stock is outstanding. In most states surplus realized from the sale of treasury shares is available for dividends, however, in California such surplus is considered to be part of the paid-in capital and that surplus is not available for dividends.

Surplus from the appreciation of assets is seldom considered to be available for dividends of any type, although in some states and under the Uniform Business Corporation Act[3] stock dividends may be charged to it.

[1] This is permitted in Delaware, Minnesota, and California. These states have provisions in their laws to protect creditors and holders of stock with preferences in liquidation. Such provisions are somewhat like the following, "A corporation may pay dividends out of its earnings for the current or preceding fiscal year, whether or not it has then a paid-in surplus or earned surplus, if it has assets in excess of its liabilities and the stated value of shares entitled to preference in liquidations."

[2] The following clause is from the Illinois statute: "Dividends may be paid out of paid-in surplus or surplus arising from the surrender to the corporation of any of its shares only upon shares having preferential right to receive dividends, *provided* that the source of such dividends shall be disclosed to the shareholders receiving such dividends, concurrently with the payment thereof."

[3] The following are the dividend provisions of the Uniform Business Corporation Act: Sec. 23. IV. No corporation shall pay dividends (a) in cash or property, except from the surplus of its assets over the aggregate of its liabilities, including in the latter the amount of its capital stock, after deducting from such aggregate of its assets the amount by which such aggregate was increased by unrealized appreciation in value by revaluation of fixed assets, (b) in shares of the corporation, except from the surplus of the aggregate of its assets over the aggregate of its liabilities, including in the latter the amount of its capital stock. V. Cash dividends shall not be paid out of surplus due or arising from (a) any profit on treasury shares before resale; or (b) any unrealized profit due to increase in valuation of inventories before sale . . . VII. A corporation which owns wasting assets intended for sale in the ordinary course of

In conclusion, it may be stated in regard to the legality of dividends that *directors should consult their attorneys and be well informed as to the laws of their state pertaining to dividends.* The statutes of the state may specifically cover dividends from certain types of surplus, and if they do not, there may have been supreme court decisions which will serve as a precedent in the state. There have been so many conflicting decisions over the legality of dividends that in the absence of statutory provisions it is difficult to determine what line of decisions the courts of a particular state will follow until decisions have actually been rendered by the supreme court of the state.

The Accountant's Attitude toward Dividends. Although accountants have had little (in fact practically nothing) to do with corporate legislation, they have in recent years been expressing their opinions, and these opinions are not entirely in accord with the prevalent ideas of the legal profession. They are however pretty much in agreement with certain noted legal authorities on corporation law. The accountant is heartily in accord with almost all the capital stock and dividend provisions of the California statute.

Accountants agree with the provisions of statutes which permit the payment of dividends from earned surplus, although, if the dividend is to be charged to surplus resulting from nonrecurring profits, they believe the stockholders should be so notified.

Most of the leaders in accounting thought would agree with those legal authorities who believe that paid-in surplus should not be available for dividends. They consider such surplus to be paid-in capital and should be treated as such. This does not mean that it should never be withdrawn, but the withdrawal, if any, should be made, not as a dividend, but as a withdrawal of paid-in capital, and should not be called a dividend; its nature should be made very clear to the stockholders. The laws of states which permit dividends from paid-in surplus usually require that the stockholder be notified of the nature of the dividend. However, this is not enough; such notification means little to many stockholders; they do not know the meaning of surplus, let alone paid-in surplus. If the corporation has an earned surplus, this is the surplus out of which dividends should be paid. The only reason many companies have paid dividends out of paid-in surplus is that they like to show a large earned surplus. It would be much better to charge the dividends to earned surplus and leave the paid-in surplus on the books. Corporations are in business to render services for

business, such as mines or oil wells, or timber, or a corporation which owns property having a limited life, such as a lease for a term of years, or patents, need not deduct the depletion of such assets by sale or lapse of time in the computation of the fund available for dividends from the net profits arising from its business without the deduction of such depletion, subject, however, to the rights of the shareholders of different classes.

society by producing and exchanging goods and services, and in return they expect to earn profits from which dividends can be paid. It is these profits that should be the source of dividends and not the invested capital, or capital obtained through the corporation's trading in its own shares or reducing its capital stock. Accountants would quite generally agree with the state statutes that prohibit dividends from paid-in surplus or permit them only under unusual circumstances.

Accountants do not think that any dividends, cash or stock, should be chargeable to Surplus from Appreciation of Assets. They agree with the provisions of the Uniform Business Corporation Act as to the impropriety of cash dividends from such surplus, but do not agree with the provision of this act which permits stock dividends to be charged to this surplus. Evidently the committee which drafted this act reasoned that stock dividends were proper since no assets were withdrawn from the corporation, but this does not meet the accountant's objection. The accountant does not favor the recording of unrealized appreciation of assets except in unusual instances, and when it is recorded he clearly earmarks it by recording it under some such title as Surplus from Appreciation of Assets. This earmarking of the surplus is notice to all persons of the unusual nature of the surplus. But when a stock dividend is charged to this surplus the surplus is converted into capital stock and disappears from the books. The protection the accountant tried to provide by earmarking the surplus is no longer provided.

Surplus Reserves. Earlier in this volume two types of reserves were discussed, valuation reserves and liability reserves. The third type of reserves, surplus, proprietorship, or net worth reserves, will now be discussed. These accounts simply appropriate or earmark surplus; a portion of the surplus is called by another name. This is accomplished by debiting Surplus and crediting the specific surplus reserve account. For example, a Reserve for Contingencies account is opened by a debit to Surplus and a credit to Reserve for Contingencies. These reserves are still a part of surplus, and the "label" may be removed at any time by an entry closing the balance of the reserve account to the Surplus account.

The chief purpose of surplus reserves is to protect the current assets of the enterprise. This may be desirable because plant and equipment have been or will be purchased, because more current assets are needed, because liabilities may have to be liquidated, because losses may be incurred in the future, etc. If it were known that the directors would consider all these possibilities before declaring dividends, and that they would withstand pressure for dividends from the stockholders, surplus reserves would not be needed.

Some years ago a leading writer on accounting advocated that surplus

reserves be opened for all the needs of the business that would tie up current assets. The balance of the Surplus account would represent only the amount that could prudently be paid out as dividends. Accountants have never gone this far, but on occasions have opened surplus reserve accounts of many different titles, for example:

Reserve for Plant Additions
Reserve for Contingencies
Reserve for Working Capital
Reserve for Possible Obsolescence
Reserve for Possible Inventory Losses
Sinking Fund Reserve.

When current assets provided by the earnings of a corporation are used for the purchase of buildings, machinery, and equipment they are no longer available for dividends. For that reason, it is not at all unusual for a corporation to debit Surplus and credit an account Reserve for Plant Additions when a large expenditure for plant and equipment has been made, or is contemplated. This account is still part of the surplus of the corporation, and dividends may legally be declared for the full amount of the Surplus account plus the Reserve for Plant Additions account. This account simply serves notice that this amount should not be considered available for dividends. Whenever the cash position of the enterprise warrants, the Reserve for Plant Additions may be returned to Surplus by a debit to the account Reserve for Plant Additions and a credit to Surplus.

The account Reserve for Contingencies is ordinarily used by corporations that are subject to special hazards. The account is opened by a debit to Surplus and a credit to Reserve for Contingencies. Again, the purpose is simply to earmark a portion of surplus as notice that assets should not be withdrawn to the full amount of the surplus, but that funds should be retained in the business for possible losses in the future—losses that cannot be foreseen at the present time.

As a business expands, more current assets are needed. If these are obtained from the profits, a portion of the surplus may be earmarked by a debit to Surplus and a credit to Reserve for Working Capital. Should the cash position of the corporation ever warrant it, this reserve may be closed to Surplus.

Obsolescence is very difficult to forecast. When it is likely to occur, but the time of occurrence cannot be foretold with reasonable certainty, a Reserve for Obsolescence may be set up by a debit to Surplus. This is a type of contingency reserve. When obsolescence can be forecast with reasonable accuracy a periodic charge is made to operations because of the obsolescence, and a corresponding credit is made to a reserve for depreciation, a valuation reserve. When a surplus reserve, Reserve for

Obsolescence, is opened and obsolescence later occurs, the debit should not be made to this reserve. If it is, the obsolescence will not show on any profit and loss statement nor will it be revealed in the expense accounts.

The account Reserve for Possible Inventory Losses is much the same as the reserve accounts discussed in the two preceding paragraphs. It is a contingency reserve. Reserves of this type are not uncommon in companies using large quantities of raw materials such as hides, cotton, and rubber which fluctuate greatly in price.

A Sinking Fund Reserve is a surplus reserve created because funds will be needed to pay off a liability, usually bonds. This reserve will be discussed in more detail in the following chapter.

Surplus reserves should be shown on the balance sheet as a part of the surplus.

Secret Reserves. The term *secret reserve* has been used to described that condition which exists when the surplus of a corporation is understated. This condition may be the result of:

An excessive write-off of fixed assets through excessive depreciation and depletion.

Excessive charges for bad debts, discounts, and collection expenses.

The undervaluation of the final inventory.

The arbitrary write-off to surplus of assets such as plant and equipment.

The recording of certain replacements, additions, and the like as expenses instead of assets.

Any other policy which results in the understatement of assets, or the overstatement of liabilities.

Secret reserves may be the result of the inadequacy of our tools of accounting, of our inability to determine accurately the exact portion of costs to be allocated to revenues. As a result, a businessman, realizing that the working capital of the business may be better protected if the expenses are overestimated instead of underestimated, may, in trying to avoid the overstatement of profits, consistently understate them.

The accountant opposes the deliberate creation of secret reserves. His position could not be otherwise for he could not condone the deliberate misstatement of facts; he has the responsibility of disclosing the facts to the best of his ability. If secret reserves arise because of his inability to make accurate measurements, he would correct these errors when discovered. However, this responsibility is not always lived up to. Through accident and design secret reserves are not uncommon.

Losses Concealed by the Use of Reserves. A few enterprises have concealed losses by opening a reserve account by a debit to Surplus, then when the loss is incurred debiting the loss to this reserve. Hence, the loss does not appear on the profit and loss statement for any period. For example, a Reserve for Possible Inventory Losses is opened by a debit to Surplus and

a credit to Reserve for Possible Inventory Losses. During the following period the inventory is written down exactly $50,000, and the debit is made to the account, Reserve for Possible Inventory Losses. This loss of $50,000 will not show as a loss of either of the two periods, and it certainly should have been shown in one of the periods. The last entry was incorrect; it should not have been made. The Reserve for Possible Inventory Losses should not be debited except when its balance is to be transferred to Surplus.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Define *surplus; deficit.*

2. Explain the following terms:

Paid-in surplus	Surplus from appreciation of assets
Earned surplus	Surplus from capital stock reduced
Capital surplus	Surplus from treasury stock transactions

3. What is a dividend?

4. Must dividends be paid in cash?

5. The Woolstoon Co. has cash of $5,000, other assets of $75,000, liabilities of $30,000, capital stock of $20,000, and a surplus of $30,000. May this company legally declare a dividend of $20,000? What is the maximum dividend it can legally declare?

6. The XYZ Corporation with a capital stock of $1,000,000 and a surplus of $1,500,000 earned $500,000 during the year 1943. No dividends were declared or paid. Mr. Herman Wind, a stockholder, believed that a dividend should be declared. Can he force the corporation to pay a dividend?

7. Can dividends legally be charged to the following surplus accounts?
   Earned Surplus
   Paid-in Surplus from the Sale of No Par Value Stock
   Surplus from Capital Stock Retired
   Surplus from Appreciation of Assets.

8. The Black Mountain Coal Co. has a Surplus account with a balance of $300,000 and a Reserve for Depletion of $500,000. What is the maximum dividend it can legally declare?

9. A dividend, payable in cash, was declared. How would you show this on the balance sheet? If the dividend were to be a stock dividend, how would you show this on the balance sheet?

10. Why do accountants oppose the declaration of dividends which are to be debited to the account Surplus from Appreciation of Assets? To the account Paid-In Surplus?

11. Can you give any reason why a surplus from appreciation of assets should be shown as a separate item on the balance sheet?

12. The Majestic Radio Co. had cumulative dividends of $125,000 in arrears on its preferred stock. Should this be indicated in any way upon the balance sheet?

13. Name and explain three types of reserves.

14. What entry would be made to open an account Reserve for Contingencies?

15. Is a reserve a fund?

16. What is accomplished by recording surplus reserves on the books?

17. A leading accountant favors the practice of setting up surplus reserves whenever

current assets will become unavailable for dividends. He would set up such surplus reserves as: Reserve for working capital, reserve for plant additions, reserve for bond redemption. What do you think of this practice?

18. Explain the meaning of the term *secret reserve.*

LABORATORY PROBLEMS

1. Make up a balance sheet of the Trinton Corporation as of December 31, 1942, from the following data: cash $2,550.25, accounts receivable $18,295.16, inventory $22,475.80, notes receivable $2,000, prepaid insurance $114.20, supplies $225.40, U.S. Government bonds $10,000, accounts payable $11,748.10, accrued taxes $315.80, reserve for doubtful accounts $816.25, buildings and equipment $28,475.40, reserve for depreciation of buildings and equipment $9,455.10, capital stock $45,000 (authorized $50,000).

2. (a) Make up the proprietorship section of a balance sheet from the following data: authorized common stock $100,000, common stock outstanding $80,000, authorized preferred stock $50,000, preferred stock outstanding $40,000, discount on common stock $5,000, premium on preferred stock $8,000, earned surplus $12,000.

(b) Make up the proprietorship section of the balance sheet from the following: capital stock authorized $100,000, capital stock issued $60,000, treasury stock $9,500, earned surplus $25,000, paid-in surplus $10,000.

3. The sales of the Wicksten Wire Works were $1,162,000 in 1933. The cost of goods sold was $1,120,000. The remainder of the expenses amounted to $290,000. During the year the company purchased $500,000 of its own bonds for $280,000, and purchased its own stock of $50,000 par value for $30,000; several months later, during 1933, this stock was sold for $50,000.

(a) Make journal entries to record the bond and stock transactions.

(b) The balance of the Surplus account was $85,292.10 on December 31, 1932. No entries were made in the Surplus account during 1933 except those indicated above. Make up a statement of profit and loss or any statements that will convey the information you think the stockholders and creditors should have.

4. The Pendleton Manufacturing Co. had an authorized capital stock of $300,000, outstanding capital stock of $200,000, and a surplus of $125,000. On January 5, 1942, a 6 per cent dividend was declared on the common stock. On February 5, 1942, the dividend was paid in cash. On June 6, 1942, a stock dividend of 50 per cent was declared. On September 1, 1942, the stock was issued to the stockholders.

(a) Make journal entries to record the preceding transactions.

(b) Make up the proprietorship section of the balance sheet as of June 7, 1942.

5. On January 1, 1942, the liabilities of the Boyd Production Co. amounted to $50,000, the capital stock outstanding to $100,000 (authorized $150,000), and the surplus to $50,000. On February 1 a dividend of $25,000 was declared payable to stockholders on record as of March 1. February 5, a dividend fund of $25,000 was set up. On March 2, dividend checks were mailed to the stockholders. On December 31, there was a balance of $265 in the dividend fund.

(a) Make journal entries to record the preceding data.

(b) Make up a balance sheet as of December 31, 1942, showing the assets as one amount.

6. From the data given below, make up a statement covering the results of the activities of the Williams Manufacturing Co. during the year 1944. Present all information that you consider of interest to the stockholders.

Sales $425,600, cost of goods sold $345,400, selling expenses $65,150, general and administrative expenses $22,495, profit on investments $12,515.

An analysis of the Surplus account revealed the following:

Balance Jan. 1, 1944	$26,525
Profit	5,070
Income and Excess Profits Taxes	2,950
Profits on Sale of Land	10,600
Surplus from Sale of Treasury Stock	3,200
Write-Up of Buildings to Appraised Value	50,000
Corrections to Depreciation	12,000 (debit)
Dividends paid	15,000

7. (a) Make up the proprietorship section of the balance sheet from the following: authorized capital stock $100,000, outstanding capital stock $60,000, treasury stock $10,000, surplus from treasury stock $2,000, earned surplus $25,000, premium on capital stock $10,000, reserve for contingencies $10,000, surplus from appreciation of land $25,000.

(b) Make up the proprietorship section of the balance sheet from the following: capital stock outstanding $150,000, capital stock subscribed $50,000, earned surplus $75,000, reserve for plant additions $20,000, reserve for depreciation $30,000, reserve for income taxes $2,000, reserve for depletion $15,000.

8. In auditing the records for the years 1936, 1937, and 1938 the auditor found the following: depreciation for 1937 was overstated $5,000; accrued wages of $1,500, $2,200, and $1,800 for the years 1936, 1937, and 1938, respectively, had not been recorded; repairs of $1,200 made in 1937 were debited to the Machinery Equipment account; unexpired insurance of $100 on December 31, 1938, had been charged as an expense. The surplus at the end of 1938 was $15,000. Make journal entries to correct the Surplus account on December 31, 1938, after the books had been closed.

9. (a) Make up the balance sheet of Climax Molybdenum Co. as of December 31, 1940, from the balances of the following balance sheet accounts:

Cash	$ 7,558,960
Accounts and Notes Receivable	986,284
Inventories (Cost)	4,246,982
Property, Plant and Equipment	7,350,286
Reserves for Depreciation and Depletion	2,914,171
Discovered Increment (debit)*	74,131,250
Reserve for Depletion of Discovered Increment	12,291,000
Deferred Charges	91,322
Accounts Payable	68,345
Accrued Expenses	132,326
Provisions for Federal and Other Taxes	1,598,983
Reserve for Employees' Welfare	50,000
General Reserve	480,000
Other Reserves	469,324
Common Stock	39,311
Discovered Increment (credit)	61,840,250
Earned Surplus	14,481,374

* The two accounts entitled Discovered Increment were brought on the books to record the value of new ore bodies discovered.

(b) Explain why the balance of the Discovered Increment account with the credit balance is not the same as that of the Discovered Increment account with the debit balance.

10. Prepare a statement of the surplus of the Lake City Shipbuilding Corporation for the year 1942 from data in the following Surplus account:

Surplus

1942			1942		
June 1	Dividends on preferred stock	$ 5,000.00	Jan. 1	Balance	$35,348.60
Dec. 1	Dividends on preferred stock	5,000.00	Dec. 31	Profit for 1942	42,316.20
Dec. 31	Organization costs written off	3,000.00			
Dec. 31	Stock discount written off	2,500.00			
Dec. 31	Dividends on common stock	10,000.00			

11. Make up a balance sheet from the following list of accounts of the Eastern Gear Co. as of December 31, 1944:

Accounts with Debit Balances		*Accounts with Credit Balances*	
Cash	$ 5,000	Reserve for Employees' Pensions	$ 7,000
Accounts Receivable	20,000	Reserve for Depreciation of Bldgs. and Machinery	12,000
Inventories:		Reserve for Doubtful Accounts	3,000
Raw Materials	10,000	Reserve for Possible Inventory Losses	11,000
Goods in Process	12,000	Preferred Stock	20,000
Finished Goods	11,000	Surplus	?
Buildings and Machinery	50,000	Bonds Payable (Mat. 1950)	20,000
Unexpired Insurance	1,200	Stock Dividend Payable	10,000
Furniture and Fixtures	6,500	Common Stock (Auth. $75,000)	50,000
Goodwill	10,000	Accounts Payable	7,500
Factory Supplies	3,000	Accrued Expenses	3,500
Sales Supplies	2,000		
Office Supplies	1,000		
U.S. Government Bonds	12,000		
Fund for Employees' Pensions	8,000		
Treasury Stock (common)	5,000		
Discount on Common Stock	4,000		

CHAPTER XXXIII. CORPORATION BONDS

A *bond* is a written promise under seal to pay a stated sum of money at a stated time. The word *bond* means very little. The rights of the bondholder depend upon the agreement under which the bonds were issued, the most important terms of which are ordinarily included on the face of the certificate. The purchaser of a bond is interested in the security of his investment and in the interest he is to receive. Some bonds are secured by a mortgage on real property or personal property, others are simply unsecured promissory notes. Most bonds pay a fixed rate of interest but some pay interest only when it is earned.

Except on bonds of the latter type, the principal becomes due and payable if the interest is defaulted. If the interest was not paid on first mortgage bonds, these bondholders would probably foreclose the mortgage, or threaten to foreclose it. If the interest was not paid on unsecured bonds, the bondholder would be in no better position than other unsecured creditors.

Bonds are usually issued in denominations or of face values of $1,000, $500, $100, or even less. The bond of $1,000 face value is the most common industrial bond. Certificates are printed on which the face value of the bond is stated and the bond agreement is given in considerable detail. Bond prices are usually quoted as percentages of 100. A $1,000 bond selling for $1,020 is said to sell for 102, and one selling for $900 is said to sell at 90. When bonds are purchased, the purchaser usually pays the amount of the principal of the bond plus the interest accrued since the date of the last interest payment. If the bond does not sell for the purchase price plus the accrued interest the bond is said to sell "flat."

The Use of Bonds in Financing. The two chief methods of raising money for the long-term needs of the corporation are through the sale of stock and bonds. The sale of stock provides funds without subjecting the corporation to the risks that accompany bonds, but there may be reasons why a corporation would not wish to issue stock. The stock might be salable only at a substantial discount or not at all, or the stockholders might not wish to dilute their equities by bringing more stockholders into the corporation. A corporation with a capital stock outstanding of $300,000 and annual earnings of $100,000 might raise $300,000 by the sale of 5 per cent bonds. If the bonds were sold at face value, the interest would be $15,000

a year. If the same amount of stock were sold, the original stockholders would find their share of the profits reduced considerably more. For example, if the earnings remained the same, half of the earnings of $100,000, or $50,000, would go to the new stockholders. Under such circumstances the stockholders might prefer to have the corporation assume the risks that accompany first mortgage bonds.

Classification of Bonds. There are many different ways in which bonds may be classified, but little would be gained by a consideration of such classifications because a certain type of bond may appear in different classifications. A consideration of the major titles given to bond issues will suffice for accounting purposes.

Bonds may be either unsecured or secured. Unsecured bonds have already been mentioned; they are simply promissory notes, and are often called *debenture bonds*. Secured bonds may have various types of property, either real or personal, pledged to protect the bondholders. The pledge of the property is evidenced by a mortgage or trust deed. When real property such as land or buildings is pledged, the bonds are generally called *first mortgage bonds* or second mortgage bonds, depending upon the priority of the claims. Bonds secured by a mortgage on personal property such as movable equipment or securities may be called *personal property bonds*. The equipment trust bonds of a railroad are personal property bonds, as they are secured by specific rolling stock of the railway, such as cars and engines.

When mortgage bonds are to be issued a mortgage agreement is prepared, duly recorded, and deposited with a trustee. If the interest or principal on any of the bonds is not paid as agreed, the bondholders may sue to foreclose the mortgage. Ordinarily the bondholders do not wish to take over the property pledged under the mortgage; they are creditors, not experienced managers. Consequently, a compromise will usually be reached under which the bondholders may sacrifice a part of the interest or even a part of the principal. In return for what they give up, they will frequently be given preferred or common stock.

Another type of secured bond, which is also a personal property bond, is the *collateral trust bond*. Collateral, that is, stock or bonds, is deposited with a trustee as security. Many investment trusts have bonds of this type outstanding.

Both secured and unsecured bonds may be *registered bonds* or *coupon bonds*. Bonds may be registered as to principal or interest, or both. When registered as to principal, ownership is evidenced on the books of the corporation or of its trustee. To transfer ownership authorization in writing by the registered holder, or his agent, is usually necessary. When registered as to interest, the corporation pays the interest to the person

registered on its books as owner regardless of who may hold the bonds. Bonds are called *coupon bonds* when coupons for interest are attached to the bonds, interest on which is collected by "clipping" the coupons, which are sent to the corporation or its agent for payment. The owner usually deposits the coupons with his bank for collection.

Some bonds, called *income bonds*, often issued in reorganizations especially in railroad reorganizations, provide for interest only if it is earned.

Other titles are often given bonds. We hear of *refunding bonds*, *sinking fund bonds*, *callable bonds*, *serial bonds*, *guaranteed bonds*, and *indorsed bonds*. All of these bonds, which may be either secured or unsecured, are given a title to distinguish them from other bond issues of the corporation or to aid in their sale. *Refunding bonds* are issued to obtain money with which to redeem or refund another bond issue. *Sinking fund bonds* are issued under an agreement which provides that a fund called a sinking fund be established for their redemption. *Callable bonds* are bonds which may be redeemed when called, that is, when the bondholder is so notified. Bonds maturing in 1960 might be made callable after some date such as 1945. In recent years, the callable feature has been very advantageous to many corporations, bonds issued when interest rates were high being called and refunded at much lower rates of interest. *Serial bonds* are bonds maturing at different times. Usually a certain portion of the total issue is redeemed each year. A bond issue of $1,000,000 might be redeemed in amounts of $100,000 a year for the next 10 years. *Guaranteed bonds* are bonds guaranteed by another corporation. A parent corporation will often guarantee the bonds of a subsidiary. *Indorsed bonds* are those indorsed by a corporation other than the one issuing the bonds. A parent corporation may indorse the bonds of a subsidiary. There are some legal differences between guaranteed and indorsed bonds which we shall not discuss here.

Accounting for the Issue of Bonds. The entries to record the sale of bonds are similar to those made to record the sale of stock. Since bonds are usually sold for cash, several of the entries that are usually made in recording stock may be omitted.

If the stockholders have given the corporation the right to issue bonds of a face value of $300,000, the entire $300,000 may not be sold. Entries are usually made to record the bonds as they are sold. If bonds of a face value of $200,000 are sold for $200,000 cash the following entry would be made:

Cash	$200,000	
Bonds Payable		$200,000
To record the sale of bonds of a face value of $200,000		

The face value of the bonds authorized to be sold should be shown in parentheses after the title Bonds Payable on the balance sheet.

Bonds payable are a liability. The bondholders have nothing to say about the management of the corporation as long as the agreement under which they were issued is carried out.

Bonds Sold at a Discount. If bonds of a face value of $100,000 are sold for $90,000, the entry to record the sale would be:

Cash	$90,000	
Bond Discount	10,000	
Bonds Payable		$100,000
To record the sale of bonds of a face value of $100,000 for $90,000		

The bond discount is written off (amortized) in an entirely different way from stock discount. It is considered to be additional interest and is written off over the life of the bonds by debits to Bond Interest and credits to Bond Discount. The reasoning behind this treatment is that the bonds could have been sold at face value if the interest rate had been high enough. In financial markets, there is a direct relationship between the rate of interest and the price for which bonds sell.

If, on January 1, a 10-year bond issue of $100,000 bearing interest at the rate of 5 per cent per year payable annually was sold for $90,000, the following entry would be made at the end of each year to record the payment of interest.

Bond Interest	$5,000	
Cash		$5,000
To record payment of annual interest of 5% on bonds of $100,000		

At the same time another entry would be made to write off one-tenth of the bond discount. This entry would be a debit to Bond Interest and a credit to Bond Discount as follows:

Bond Interest	$1,000	
Bond Discount		$1,000
To record 1/10 of the bond discount of $10,000 written off		

If interest were paid semiannually, entries would be made each 6 months for one-half of these amounts.

If the books are closed each month, one-twelfth of the annual interest would be accrued each month, and one-twelfth of the amount of the annual bond discount would be written off.

Bonds Sold at a Premium. If a bond issue of a face value of $100,000 is sold for $110,000, the entry to record the sale would be:

Cash	$110,000	
Bonds Payable		$100,000
Bond Premium		10,000
To record the sale of bonds of a face value of $100,000 for $110,000		

Bond premium is written off by debits to the Bond Premium account and credits to the Bond Interest account. Bond premium of $10,000 on a 10-year bond issue would be written off each year by the following entry:

Bond Premium	$1,000	
Bond Interest		$1,000
To write off 1/10 of the bond premium		

The bond premium written off is credited to the Bond Interest account because of the relationship between the rate of interest and the bond premium. When a premium is received on the sale of bonds it is because the rate of interest was higher than the rate necessary to sell the bonds at face value. The rate of interest might have been lowered to a point where the premium would be eliminated. Because of this relationship between interest and premium, the premium is considered to be simply an adjustment to the interest.

Bonds Outstanding Method of Amortizing Bond Premium or Bond Discount. When a corporation issues serial bonds, an equal distribution of the discount or premium over the life of the bonds would be inequitable. If, on January 1, a bond issue of $50,000 is sold for $45,000 under an agreement that bonds of a face value of $10,000 are to be retired each year, the bonds outstanding each year would be as follows:

Year	*Bonds*
1	$ 50,000
2	40,000
3	30,000
4	20,000
5	10,000
	$150,000

During the fifth year, bonds of only $10,000 were outstanding, whereas during the first year bonds of $50,000 were outstanding; the fifth year had the use of only $10,000, while the first year had the use of $50,000. Obviously, both of these years should not be charged with the same amount of bond discount; a more equitable distribution is obtained by the bonds outstanding method of amortizing the discount.

Under this method, the bonds outstanding each year are listed as above and the total is obtained. At the end of the first year, 50,000/150,000 or 5/15 of the bond discount is written off; at the end of the second year 40,000/150,000 or 4/15 is written off, and this process continued for the life of the bonds, giving the following schedule for the amortization of the discount:

Year	*Fraction of Total Bonds Outstanding*	*Bond Discount*	*Bond Discount Amortized*
1	5/15	$5,000	$ 1,666.67
2	4/15	.....	1,333.33
3	3/15	.....	1,000.00
4	2/15	.....	666.67
5	1/15	.....	333.33
			$5,000.00

At the end of the first year the entry to amortize the bond discount would be:

Bond Interest	$1,666.67	
Bond Discount		$1,666.67
To write off 5/15 of the bond discount of $5,000		

At the end of the second year the entry would be:

Bond Interest	$1,333.33	
Bond Discount		$1,333.33
To write off 4/15 of the bond discount of $5,000		

Scientific Amortization of Bond Discount and Bond Premium. In the illustrations given in the preceding pages, bond discount and bond premium were written off in proportion to the time the bonds were outstanding, or in proportion to the time and amounts of the bonds outstanding. These methods, although satisfactory when the amounts are unimportant, are not strictly correct. The prices paid for bonds in financial markets are influenced by their yield. An insurance company or financial institution determines the yield it should receive on a particular type of bond. If on an industrial bond paying 6 per cent interest, the buyer considered 5 per cent a fair yield, he would be willing to pay a price for the bond that would yield him 5 per cent interest each year during the life of the bond, that is, he would pay a premium for the bond. For a 3-year bond paying 6 per cent interest semiannually, that is, 3 per cent each 6 months, a purchaser would pay $1,027.54 if he wanted a yield of 5 per cent interest compounded semiannually.

The issuing corporation could have sold this bond for its face value if the interest rate had been 5 per cent per year compounded semiannually. Applying the rate of 2½ per cent each 6 months, which is the rate this corporation had to pay for money, the corporation would compute the interest on $1,027.54 to be $25.69. But the corporation is paying $30 each 6 months. The difference between $30 and $25.69 or $4.31 is debited to the Bond Premium account and credited to Bond Interest, thereby reducing the book value of the liability to $1,023.23. At the end of the next 6 months, interest at 2½ per cent on $1,023.23 is computed to be $25.58. The difference between this amount and $30 or $4.42 is debited to the Bond

Premium account. The amounts to be entered for each period are shown in the following schedule:

	Interest Paid 3%	*Interest Charged* 2½%	*Debit to Bond Premium*	*Investment*
Jan. 1, 1940				$1,027.54
July 1, 1940	$30.00	$25.69	$4.31	1,023.23
Jan. 1, 1941	30.00	25.58	4.42	1,018.81
July 1, 1941	30.00	25.47	4.53	1,014.28
Jan. 1, 1942	30.00	25.36	4.64	1,009.64
July 1, 1942	30.00	25.24	4.76	1,004.88
Jan. 1, 1943	30.00	25.12	4.88	1,000.00

Bonds sold at a discount could ordinarily have been sold at the face value if the interest rate had been sufficiently high. The corporation received less for the bonds than it could have received if the interest rate had been higher. A 5-year 4 per cent bond paying interest semiannually, sold to yield 6 per cent compounded semiannually to the investor, would be sold for $914.70. Since 6 per cent is the rate this corporation must pay for loans of this type, bond interest is computed on that basis. Six per cent on $914.70 for 6 months is $27.44, and this amount is debited to the Bond Interest account. But since the interest paid is only $20, the difference of $7.44 is credited to the Bond Discount account. This brings the book value of the bond up to $922.14. At the end of the next 6 months 3 per cent interest on $922.14 or $27.66 is recorded and credits of $20 and $7.66 are made to Cash and Bond Discount, respectively. The following is a schedule giving the amounts for the entries at the different dates:

	Interest Charged 3%	*Interest Paid* 2%	*Credit to Bond Discount*	*Investment*
Jan. 1, 1942				$ 914.70
July 1, 1942	$27.44	$20.00	$7.44	922.14
Jan. 1, 1943	27.66	20.00	7.66	929.80
July 1, 1943	27.89	20.00	7.89	937.69
Jan. 1, 1944	28.13	20.00	8.13	945.82
July 1, 1944	28.37	20.00	8.37	954.19
Jan. 1, 1945	28.63	20.00	8.63	962.82
July 1, 1945	28.89	20.00	8.89	971.71
Jan. 1, 1946	29.15	20.00	9.15	980.86
July 1, 1946	29.43	20.00	9.43	990.29
Jan. 1, 1947	29.71	20.00	9.71	1,000.00

Bond Discount and Bond Premium on the Balance Sheet. The discussion in the preceding section provides the necessary background for an understanding of the method of showing bond discount and bond premium on the balance sheet. Since bond discount and bond premium are simply adjustments to the price of the bonds, the logical way to show them on the balance sheet is as a deduction from or an addition to the face value of the bonds at maturity.

Bonds of a face value of $1,000,000 sold at a discount of $200,000 would by this method be shown on the balance sheet as follows:

Bonds Payable (Maturity Jan. 1, 1960) . .	$1,000,000	
Less: Bond Discount	200,000	$800,000

Each year or less a portion of the bond discount is written off with the result that the amount of the liability is gradually increased until it reaches the face value of the bonds at maturity. This is a reasonable, logical way of showing the bond discount. The face value of the bonds does not have to be paid until maturity, and in the meantime the bonds are shown at what one might call their book value, just as assets are shown at their book value. The market value of the liability is of no more importance than the market value of buildings and equipment.

Bonds of a face value of $2,000,000 sold at a premium of $300,000 would be shown on the balance sheet as follows:

Bonds Payable (Maturity Dec. 1, 1970) .	$2,000,000	
Add: Bond Premium	300,000	$2,300,000

The bond premium is added to the face value of the bonds, and the premium is gradually written off until at maturity the bonds would be shown at their face value. Again the bonds are shown at an amount analogous to the book value of assets; the market value of the liability is of little significance.

This method, although the most logical, is not the most widely used. On published statements the reader will almost invariably find bond discount shown as an asset, under some such heading as deferred charges or other assets, and bond premium as unearned revenue. This method is not the result of logical reasoning but of tradition. Attempts have been made to rationalize this procedure, and some of these attempts have merit even though bond discount does not meet the fundamental tests of an asset; it is not going to be converted into cash, nor is it a cost of goods or services. The most effective arguments for this treatment are made by those accountants who reason that the cost of capital is an operating expense of the business enterprise. They reason that services are obtained from capital and that bond discount is a cost of these services, hence should be recorded as an asset and written off during the periods over which the services are received.

Costs of a Bond Issue. When a corporation issues bonds, certain costs are incurred. Attorneys' fees and costs of printing the bonds must be paid in addition to various other sundry costs, and the amount of such costs is often substantial.

The common practice, which is not theoretically correct, is to record these in the Bond Discount account. This is considered incorrect because

these costs may properly be recorded as assets, as they are costs of services. On the other hand bond discount is to be considered as an adjustment to the liability, bonds payable.

Like bond discount, these costs may properly be written off over the life of the bonds.

Bonds Issued during the Accounting Period. Bonds are seldom issued on the date printed upon the certificate. For example, a 6 per cent bond issue of $100,000, dated January 1, 1936, is sold on April 30 at 95. The company selling the bonds would receive $95,000 for the bonds, plus accrued interest of $2,000 for the 4 months, a total of $97,000. The entry to record the sale of the bonds would be:

Cash	$97,000	
Bond Discount	5,000	
Bonds Payable		$100,000
Bond Interest		2,000
To record the sale of $100,000 of bonds dated Jan. 1, price 95, plus accrued interest for 4 months		

The $2,000 is credited to the Bond Interest account because the interest for the entire 6 months will be paid later and debited to this account, at which time the Bond Interest account will show the actual interest charge for the period, as follows:

Bond Interest

1936		*1936*	
July 1	$3,000	Apr. 30	$2,000

If a balance sheet were made up before July 1, the credit to the Bond Interest account would be eliminated by the adjusting entry to record the accrued interest payable.

Bonds Retired at Less than Book Value. A corporation may have the opportunity to retire its bonds payable at a discount. During the depression, many corporations fortunate enough to have the money available were able to retire substantial amounts of bonds at less than the amounts at which they were shown on the books, some, in fact, at ridiculously low figures. If bonds payable of $100,000 face value were retired for $80,000 on the day on which an interest payment had been made, and if there was no bond discount or premium on the books, the entry to retire the bonds would be:

Bonds Payable	$100,000	
Cash		$80,000
Surplus from Bonds Retired		20,000
Bonds of $100,000 retired at 80		

Since bonds of a face value of $100,000 were retired by the payment of $80,000 cash, a surplus of $20,000 was created.

The facts of the preceding illustration were so presented that interest and bond discount did not enter into the computation. Ordinarily a corporation would have to pay the accrued interest in addition to the purchase price of the bonds. And if there was bond discount on the books which applied to the bonds retired, this bond discount should be written off, thereby reducing the surplus resulting from the transaction. If 6 per cent bonds of a face value of $100,000 were retired at 90, 2 months after the date of a regular interest payment, and if there was no discount or premium upon the books, the following entry would be made:

Bonds Payable	$100,000	
Bond Interest	1,000	
Cash		$91,000
Surplus from Bonds Retired		10,000
To retire bonds of $100,000 at 90 plus accrued interest for 2 months		

The interest of $1,000 for 2 months is debited to Bond Interest.

If an issue of 6 per cent bonds of a face value of $100,000 (the entire issue) were retired at 85, 4 months after the date of a regular interest payment which was 6 years prior to maturity, and if there was bond discount of $5,400 on the books, the following entries would be made:

Bond Interest	$300	
Bond Discount		$300
To write off ⅓ year's bond discount of $900		
Bonds Payable	100,000	
Bond Interest	2,000	
Cash		87,000
Surplus from Bonds Retired		15,000
To record retirement of bonds of $100,000 at 85 plus accrued interest		
Surplus from Bonds Retired	5,100	
Bond Discount		5,100
To write off the balance of the Bond Discount account		

The first entry was made to write off the bond discount for the 4 months. Bond discount for one year would be one-sixth of $5,400, or $900, and for 4 months it would be one-third of $900, or $300. This amount should be charged to the current period, which has had the use of the money.

The second entry was made to record the purchase of the bonds plus the accrued interest. Bonds of $100,000 face value plus accrued interest of $2,000 were purchased for $87,000 cash. The Bonds Payable account must be debited $100,000 in order to eliminate the balance of this account; the current period should be debited with the interest of $2,000 for the 4 months, and Cash must be credited $87,000. The balance of $15,000 is

credited to a Surplus from Bonds Retired account. But this entire $15,000 does not represent surplus, the balance of the Bond Discount account must be written off.

The third entry is made to write off the balance of the Bond Discount account, which is now $5,100. This discount applies to the bonds that were retired; consequently the amount should be written off by a debit to Surplus from Bonds Retired and a credit to Bond Discount. This reduces the Surplus from Bonds Retired account to the net amount of surplus resulting from the purchase of the bonds.

If all the bonds were not retired, the entire amount of the bond discount would not be written off, but that portion applicable to the bonds still outstanding would remain on the books. To illustrate, the following were accounts on the books of the Yerko Corporation on July 1, 1934; Bond Discount $50,000, and Bonds Payable $1,000,000. The bonds paid 6 per cent semiannually on December 30 and June 30.

On June 30, 1934, bonds of a face value of $200,000 were purchased for $140,000. The following compound entry may be made to record the purchase of the bonds and to write off the bond discount:

Bonds Payable	$200,000	
Cash		$140,000
Bond Discount		10,000
Surplus from Bonds Retired . . .		50,000
To record the purchase of bonds of a face value of $200,000 for $140,000 and to write off ⅕ of the bond discount		

When bonds are purchased between interest dates, as is usually the case, entries are made to record the interest and to write off the portion of the discount for the time elapsed since the last regular interest payment. If the bonds in the preceding example were purchased for retirement on September 1, instead of on June 30, and bond discount of $10,000 was written off each year, the entries would be:

Sept. 1	Bond Interest	$333.33	
	Bond Discount		$333.33
	To write off the portion of the bond discount from July 1 to Sept. 1 applicable to the $200,000 of bonds retired. Yearly discount applicable to these bonds, $2,000. Discount for 2 months, ⅙ of $2,000.		

Sept. 1	Bond Interest	$ 1,000.00	
	Bonds Payable	200,000.00	
	Cash		$141,000.00
	Bond Discount		9,666.67
	Surplus from Bonds Retired		50,333.33
	To record the purchase of bonds of a face value of $200,000 for $140,000, plus accrued interest of $1,000; and to write off bond discount applicable to these bonds.		

Unamortized Discount When Bonds Are Refunded. An entire bond issue may be retired when there is a balance in the Bond Discount account. For example, a $10,000,000, 6 per cent bond issue might be retired when the balance of the Bond Discount account was $100,000. If 3 per cent bonds were issued to retire the original bonds, the question arises as to what to do with the balance of $100,000 in the Bond Discount account. Arguments have been advanced for and against the following methods of disposing of this discount:

The discount should be written off over the unexpired life of the original bonds.
The discount should be written off over the life of the new bonds.
The discount should be written off by a debit to Surplus.

Those who advocate the first method state that the period covered by the unexpired life of the original bonds receives the benefit of a rate of interest lower than anticipated; therefore this period should absorb the discount.

Those who favor the second method state that the reason for the redemption of the original bonds was to obtain lower interest charges. Since the period covered by the life of the new bonds receives the benefit from lower interest rates, the discount should be written off over the life of the new bonds.

The objection is raised to the first two methods that the bond discount applies to the original issue and has nothing to do with the new issue, hence the discount should be written off to surplus when the original bond issue is retired, that to do otherwise would be analogous to claiming that the cost of removing a machine should be charged to the account for the new machine.

Some raise an additional objection to the second method, claiming that there is no sound reason why the discount should be written off over the life of the new bonds. They point out that if the original bonds had not been retired, the discount would have been completely written off at the end of the life of the original bonds. Consequently the discount would not have applied to the entire life of the new bonds unless the new bonds were of the same or earlier maturity, and for the years following the maturity of the original bonds, one would not know what the interest rate would be. Therefore, they say that it is not reasonable to claim that this period received the benefit of the lower interest rates.

The most common method of disposing of this discount is to write it off to surplus. This is done on the theory that the discount is attached to the original bond issue and is not related in any way to the new bond issue. This is also the only method recognized by the Bureau of Internal Revenue for income tax purposes.

Ordinarily the method followed will have little effect on the profits for the period, but there are instances, especially among public utilities, when the method followed will make a considerable difference in the profits. When a substantial amount of bond discount is written off to surplus the amount of this discount does not appear on future profit and loss statements, and consequently the profits might show a considerable increase for the periods after the discount was written off, and this might be misleading. Under such circumstances, it would be desirable to append a footnote to the statements of profit and loss to explain the change in the profits.

Bond Investments. Investments in bonds may be made either for short or for long periods of time. Short-term investments, called *temporary investments*, are made either to obtain interest on excess funds or to make speculative profits. Long-term investments, often called *permanent investments*, are those bought with the intention of holding them until maturity.

Long-Term Investments. Bonds purchased with the intention of holding them until maturity are ordinarily recorded at cost. If the purchase price is above or below face value, the bond investment account is gradually increased or decreased until at maturity the bonds would be recorded at face value. For example, a $1,000 bond bearing 4 per cent interest and maturing on January 1, 1948, was purchased on January 1, 1938, for a total cost of $800.

The purchase would be recorded by a debit of $800 to Bond Investments and a credit of $800 to Cash.

Bond Investments	$800	
Cash		$800
To record the purchase of $1,000 XYZ Corporation 4% bond maturing Jan. 1, 1948		

If interest is paid yearly, two entries are made at the end of each year: one to record the interest payment, and a second entry to adjust the Bond Investment account:

Cash	$40	
Interest Revenue		$40
To record receipt of annual interest on XYZ Corporation 4's/48 bond		
Bond Investment	$20	
Interest Revenue		$20
To record 1/10 the $200 discount on the bond as revenue		

The second entry requires explanation. When the bond purchased for $800 is retired in 10 years for $1,000, a gain of $200 is made. This $200 might be recorded as a profit of the tenth year, but if it is the intention to

hold the bond until maturity and it is likely to be retired at that time, it is more reasonable to record a portion of the $200 each period. This is done by an entry being made to debit the Bond Investment account and credit the Interest Revenue account.

When a bond is purchased at a premium, the premium is prorated over the life of the bonds as a reduction of interest. A 6 per cent bond paying interest semiannually, which was purchased exactly 10 years prior to maturity for $1,100 would result in the following entries being made when the semiannual interest is received:

Cash	$30	
Interest Revenue		$30
To record the semiannual interest on ABC Corporation 6's/48		
Interest Revenue	$5	
Bond Investment		$5
To reducc Bond Investment account 1/20 of premium of $100 on the ABC Corporation 6's/48		

A portion, 1/20 of the $100 premium, is written off at each interest date by a debit to Interest Revenue and a credit to Bond Investment.

It has been explained that many institutions, such as insurance companies, which buy bonds with the definite intention of holding them until maturity, use more scientific methods; they bid for bond issues at a price which will yield a certain rate of interest. For example, it may be desired to purchase an issue of bonds which pays 6 per cent per annum semiannually at a price that will yield 5 per cent semiannually. A $1,000 6 per cent bond purchased exactly 3 years prior to maturity to yield 5 per cent would be purchased for $1,027.50. Instead of prorating the premium over the 3 years, insurance companies write it off scientifically. Interest at the desired rate of 2½ per cent is computed each 6 months, and the balance of the interest received in excess of this amount is used to reduce the investment. If the aforementioned bond was purchased on January 1, a schedule would be made up to show the amortization of the premium. Such a schedule follows:

Date	*Interest* 3%	*Investment Yield* 2½%	*Amortization*	*Book Value*
Jan. 1, 1940				$1,027.54
July 1, 1940	$30.00	$25.69	$4.31	1,023.23
Jan. 1, 1941	30.00	25.58	4.42	1,018.81
July 1, 1941	30.00	25.47	4.53	1,014.28
Jan. 1, 1942	30.00	25.36	4.64	1,009.64
July 1, 1942	30.00	25.24	4.76	1,004.88
Jan. 1, 1943	30.00	25.12	4.88	1,000.00

On each interest date the Bond Investment account would be reduced the amount shown in the Amortization column.

When the first $30 interest was received the entry would be:

Cash	$30.00	
Interest Revenue		$25.69
Bond Investment		4.31
To record receipt of interest and to amortize premium		

When the second $30 was received the entry would be:

Cash	$30.00	
Interest Revenue		$25.58
Bond Investment		4.42
To record receipt of interest and to amortize premium		

When a 4 per cent bond paying interest semiannually is purchased exactly 5 years prior to maturity to yield 6 per cent payable semiannually, the purchase price would be $914.70, and the amortization schedule would be:

Date	*Interest* 2%	*Investment Yield* 3%	*Amortization*	*Book Value*
Jan. 1, 1938				$ 914.70
July 1, 1938	$20.00	$27.44	$7.44	922.14
Jan. 1, 1939	20.00	27.66	7.66	929.80
July 1, 1939	20.00	27.89	7.89	937.69
Jan. 1, 1940	20.00	28.13	8.13	945.82
July 1, 1940	20.00	28.37	8.37	954.19
Jan. 1, 1941	20.00	28.63	8.63	962.82
July 1, 1941	20.00	28.89	8.89	971.71
Jan. 1, 1942	20.00	29.15	9.15	980.86
July 1, 1942	20.00	29.43	9.43	990.29
Jan. 1, 1943	20.00	29.71	9.71	1,000.00

When the first payment of interest is received the following entry would be made:

Cash	$20.00	
Bond Investment	7.44	
Interest Revenue		$27.44
To record receipt of interest and to amortize discount.		

When the second payment is made the entry will be:

Cash	$20.00	
Bond Investment	7.66	
Interest Revenue		$27.66
To record the receipt of interest and to amortize the discount.		

If any development occurred which would indicate that the bonds would not be retired at face value this method should not be used.

Bonds Purchased between Interest Dates. When bonds are purchased, the purchase price of the bonds is paid plus the accrued interest and the commissions. For example, if a bond is purchased in the open market for

$900, plus interest of $20 accrued since the date of the regular interest payment and a commission of $5, the entry would be:

Bond Investments	$905	
Interest Revenue	20	
Cash		$925
To record purchase of X Corporation bond for $900 plus accrued interest of $20 and commission of $5.		

Later, when the interest is collected, or accrued at the end of the accounting period, the preceding debit to the Interest Revenue account will partly offset the credit.

Temporary Investments. Temporary investments, like permanent investments, are recorded at cost. The purchase of a bond at a total cost of $905 would be recorded at that amount, and if the bond is later sold for $950, a net gain of $45 is made. The customary practice is to record such gains as profits of the period in which the bond is sold. This is done because the gain or loss on the transaction will not be known until the bond is sold. Such gains or losses would be considered by merchandising and industrial enterprises as nonrecurring gains and losses.

Sinking Funds and Sinking Fund Reserves. In order to provide for the redemption of bonds, one of the following policies may be followed:

Sufficient cash or securities for the redemption of the bonds may be retained in the business.

A fund called a sinking fund may be established for the redemption of the bonds.

A Sinking Fund Reserve account may be opened but no fund established.

A sinking fund may be provided and a Sinking Fund Reserve account opened.

Many corporations make no special provision for the retirement of bonds. This policy may be followed for several reasons; it may be the intention of the corporation to refund the bonds, or to liquidate them with the proceeds of a stock issue. Or the bond issue may be so small that no special plans need be made for its liquidation. Finally, the corporation may keep sufficient funds available for the retirement of the bonds without resorting to the use of special funds, or reserve accounts.

Either because of the provisions of the trust agreement under which the bonds were issued or because of the voluntary action of the directors, a fund, usually called a *sinking fund*, may be accumulated for the redemption of the bonds. Such funds are established like any other fund, ordinarily by periodic payments of cash into a special fund to be used for the retirement of the bonds.

A deposit of $50,000 made in the sinking fund would be recorded by an entry debiting Sinking Fund and crediting Cash $50,000:

Sinking Fund	$50,000	
Cash		$50,000
To record deposit in sinking fund		

Interest earned on the sinking fund would be debited to Cash or to the Sinking Fund, depending upon the disposition of the cash, and credited to a revenue account called Sinking Fund Interest.

When the sinking fund is used to retire bonds an entry would be made as follows:

Bonds Payable	xx	
Sinking Fund		xx
To record redemption of bonds of $xx face value for $xx		

A Sinking Fund Reserve account may be established by a debit to Surplus and a credit to the Sinking Fund Reserve. The purpose of such an account is to earmark part of surplus so that less surplus will appear to be available for dividends. An entry to debit Surplus and credit Sinking Fund Reserve $50,000 would be made as follows:

Surplus	$50,000	
Sinking Fund Reserve		$50,000
To credit Sinking Fund Reserve $50,000		

Such an entry has no direct connection with an entry to a Sinking Fund account; it simply earmarks part of the surplus, and as previously stated, the only reason for making this entry is to reduce the amount of surplus and indicate that a smaller amount is available for dividends. When the bonds are redeemed, the Sinking Fund Reserve account, which has always been part of surplus, may be returned to surplus by a debit to the Sinking Fund Reserve account and a credit to the Surplus account.

A corporation may establish both a sinking fund and also earmark a portion of surplus as a sinking fund reserve, but both of these accounts are not always found in practice. When the agreement under which the bonds are issued contains a provision for the protection of the bondholders, this provision will usually require that a sinking fund be established, and may also include a provision requiring a sinking fund reserve. The purpose of this provision is to protect the working capital of the enterprise.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. Explain the meaning of the word *bonds.*
2. What risks are incurred when mortgage bonds are sold?
3. Considering the risks involved, might there ever be circumstances under which the stockholders would prefer to issue mortgage bonds rather than to increase the capital stock?
4. Give the entry to record the sale of bonds of a face value of $500,000 for $475,000 cash.
5. When capital stock has been issued at a discount, how is the discount written off?
6. How is bond discount written off?

7. Why is bond discount written off in an entirely different way from stock discount?

8. Bonds of a face value of $100,000 are sold for $110,000 cash. What entries would you make to record this transaction?

9. How is bond discount written off?

10. How would you show bond discount on the balance sheet? Justify your method.

11. How would you show bond premium on the balance sheet?

12. Bonds of $1,000,000 were sold by the Staly Furnace Co. at 98. Attorneys' fees and costs of printing the bonds amounted to $15,000, which was paid in cash. Give entries to record these transactions.

13. A bond issue of $1,000,000 bearing 4 per cent interest payable July 1 and January 1 was sold on March 31 for $980,000 cash. Give the entries to record the sale of the bonds. Give entries that would be made on July 1.

14. On January 1 the Millway Co. purchased its own bonds of $500,000 face value for $450,000 cash. Interest was paid on these bonds on December 31. What entries would you make to record this transaction if the bonds were to be canceled?

15. Bonds of $1,000,000 paying interest on January 1 and July 1 were outstanding on December 31, 1942. On January 1, bond discount of $50,000, which applied to these bonds, was on the books. On January 1, bonds of a face value of $600,000 were purchased for $520,000 and retired. The bonds paid interest of 3 per cent on December 31. Make the entries that would be made when the bonds were retired.

16. A 6 per cent bond issue of $50,000,000, maturing in 1950, was retired on January 1, 1936. On this date unamortized bond discount of $1,500,000 was on the books. To retire these bonds a new 30-year bond issue of $50,000,000 3 per cent bonds was sold at 99. How would you dispose of the bond discount of $1,500,000?

17. Distinguish between permanent investments in bonds and temporary investments in bonds.

18. A $1,000 face value bond was sold for $800 cash on July 1, 1942, which was exactly 10 years prior to the maturity of the bonds. It was the intention of the investing corporation to hold this bond until its maturity. Assuming the bond will be retired for $1,000 at maturity, how would you record the gain of $200?

LABORATORY PROBLEMS

1. (a) The Southern Chemical Co. sold 5 per cent bonds of $1,000,000 face value to Starley, Jones Co., investment brokers, for $940,000 cash. Costs paid in connection with the bond issue amounted to $15,000. Make journal entries to record the sale of the bonds and the payment of the costs.

(b) If the bonds were sold January 1 and mature in exactly 10 years, make the entries that would be made when the semiannual interest was paid on July 1.

2. (a) The United Oil Co. sold 4 per cent bonds of $10,000,000 face value for $10,200,000. It paid costs of $85,000 connected with the issue of these bonds. Make journal entries to record the sale of the bonds and the payment of the costs.

(b) If the bonds were sold on January 1, exactly 20 years prior to maturity, make the entries that would be made when the interest was paid July 1.

3. (a) On April 1, 1938, the Synco Oil Co. sold 5 per cent, 20-year debentures of $1,000,000 face value, dated January 1, 1938. The bonds were sold at face value plus accrued interest. Make the entry to record the sale of the bonds.

(b) On March 1, the Natoma Corporation sold 20-year bonds, dated January 1, of a face value of $1,000,000, paying interest at 4 per cent annually, payable semi-

annually on January 1 and July 1. The bonds were sold at 90 plus accrued interest. Make a journal entry to record the sale of the bonds. Make the entries on July 1 when the interest was paid.

4. The United Bell Corporation sold $1,000,000 face value 4 per cent debentures, dated January 1, 1938, interest payable semiannually on January 1 and July 1, at the following prices:

March 1, $300,000 at 98 and accrued interest.
March 15, $200,000 at 97 and accrued interest.
April, 1, $500,000 at 99 and accrued interest.

Make the entries to record the sale of the bonds.

5. On April 1, the Iroco Corporation sold its 20-year debentures of $5,000,000 face value at 102 plus accrued interest. The bonds were 4 per cent sinking fund bonds paying interest on January 1 and July 1 and maturing 20 years after January 1.

(a) Make the entries to record the sale of the bonds.

(b) Make the entries on July 1.

6. On January 1, 1942, 5 per cent serial bonds of a face value of $1,000,000 were sold at 89. Interest was payable on December 31, on which date bonds of $100,000 are to be retired each year.

(a) Make the entry to record the sale of the bonds.

(b) Draw up the schedule for the amortization of the discount.

(c) Make the entries that would be made when interest was paid on December 31, 1944.

7. (a) On July 1 interest was paid on $300,000 face value bonds of the Wearever Rubber Co. On July 2 these bonds were retired by the Wearever Rubber Co. for $250,000. The bonds were originally sold at their face value. Give the entry to record the purchase of the bonds.

(b) Bonds of a face value of $50,000 were sold for $58,000 under an agreement that bonds of $10,000 were to be retired each year. Make up a schedule for the amortization of the premium.

(c) A trust deed provides that deposits of $5,000 are to be made in a sinking fund each year for 10 years. Give the entry that would be made annually to record the payment of $5,000 to the custodian of the sinking fund.

(d) Interest of $3,000 was earned on a sinking fund. Make a journal entry to record the receipt of this interest, which was deposited in the sinking fund.

8. The Seaton Stiles Corporation had assets of $500,000, bonds payable of $100,000, other liabilities of $50,000, capital stock of $150,000, sinking fund reserve of $100,000, and a surplus of $100,000.

(a) Make a journal entry to record the retirement of the bonds payable by the payment of $100,000.

(b) Does the preceding transaction change the proprietorship?

(c) Make the journal entry to close the Sinking Fund Reserve account.

9. The Edson Electric Company refunded $50,000,000 of its 5 per cent bonds which were originally sold at a discount of 10 per cent. Of this discount, $2,500,000 had not yet been written off. The new bonds were 20-year 3 per cent bonds of $50,000,000 face value and were sold at 101. The original bonds were retired at face value.

(a) Make the entries to retire the original bonds and to record the sale of the new bonds.

(b) The original bonds were retired 5 years before maturity. The Edson Electric

Company had 100,000 shares of stock outstanding. Assuming that the bond discount of $2,500,000 was immediately written off to surplus, what effect would this have on the per share earnings of the company over the next 5 years?

10. (a) Bonds of The Virginia Tobacco Co. of $50,000,000 face value, which paid interest of 8 per cent semiannually, were purchased January 1 at 130. The bonds will mature in exactly 10 years. Make journal entries on the investor's books to record the purchase of the bonds on January 2, the day after the regular interest payment.

(b) Assuming the bonds are to be held to maturity, give the journal entry that would be made on July 1 when the first semiannual payment of interest was received. One twentieth of the bond premium is to be written off at the end of each 6-month period.

CHAPTER XXXIV. THE ANALYSIS OF FINANCIAL STATEMENTS

How Financial Statements Are Used. Early in this volume the fact was emphasized that financial statements are not the final products of accounting. They are simply a means to an end, and that end is information. Throughout this volume the discussion and problems have emphasized the use of the information obtainable from the records, much of which cannot be obtained from the periodic profit and loss statements and balance sheets. It must be obtained by research and analysis; consequently the accountant must be a research man, and much of his research will carry him beyond the accounting records.

This chapter will add little to the knowledge of one who is interested solely in information which will be used in operating the enterprise. It deals with the fundamental financial statements, the balance sheet and the statement of profit and loss which, in their ordinary form, are of relatively little value for operating purposes except in very small and comparatively static companies, or in indicating unusual developments within the business. Well-managed enterprises require more current, continuous, and detailed information; information on their fixed and variable costs, increment costs, cost variations, profit variations, and the like. But certain parties depend upon the aforementioned statements and related supplementary statements for their information. They do not have the information that is available to the operating executives.

These parties of interest are the stockholders, prospective investors, creditors, and labor. Stockholders ordinarily do not need the detailed operating information used by the management. They are interested in the final results and in the future prospects of the business, in the accomplishments of the management, in detecting unfavorable trends that might mean future trouble, and also in determining how the performance of their company compares with that of other companies in the same industry as well as in other industries.

Prospective investors are also primarily interested in the future performance of the company. They may be interested in the results of the past but only as these results relate to the future prospects of the company. They are interested in comparing the company under consideration with other companies, companies both in the same and other industries. The

basic statements are an aid to these prospective investors, but other factors, too often neglected by the prospective investor, may be even more important. The ability of the management to cope with the problems ahead of the company is most vital to the success of the enterprise.

Both short-term and long-term creditors may rely upon the basic statements for much of their information. The so-called short-term creditors are usually not much different from the long-term creditors, as the obligations to them are often renewed indefinitely, as is true of creditors who supply merchandise. The same may be true of banks, they may continue to be creditors for many years, although this is not their general policy. Both short-term and long-term creditors are primarily interested in the safety of their capital, and use the balance sheet and statement of profit and loss as sources of information.

Labor is interested in the ability of the enterprise to pay wages. This means that it is interested in the financial condition, the profits, and the effect of wage changes upon costs and profits. Much of this information, although not all, is obtained from the balance sheet and statement of profit and loss.

To investors, creditors, and labor the trend of profits is the most important information. This is true even of creditors who may appear to be most interested in the financial condition of the enterprise, because the profits will have a considerable effect on this condition.

On the other hand, the current financial position of the company is important and must not be underemphasized. Increased working capital resulting from profits may be dissipated by poor financial management.

Statements with Percentages. To facilitate the analysis of financial statements the following supplementary statements may be made up:

1. A single profit and loss statement with percentages as well as amounts. The amount of the net sales is taken as 100 per cent, and all deductions from sales are computed as a percentage of net sales. These percentages may be compared with similar percentages for other periods, or of other companies.

2. Comparative profit and loss statements showing actual increases and decreases in dollars and in percentages. Such statements indicate changes that have occurred and, if made up for a sufficient number of years, may indicate trends.

3. A single balance sheet with percentages included as well as amounts. The percentage of each asset to the total assets, and to the total of its group, may be given. Similar percentages for each liability may be shown. Comparisons may then be made with the same percentages from balance sheets made up at the end of earlier periods, or with percentages on the balance sheets of other companies.

4. Comparative balance sheets showing increases and decreases in amounts and/or in percentages.

Profit and Loss Statement with Percentages. An additional column is added to the statement of profit and loss, in which is entered the percentage of each amount to net sales. The following is an illustration of such a statement:

Arco Rubber Company

Statement of Profit and Loss
Year ending December 31, 1936

	Amount	*Per Cent of Net Sales*
Sales	$11,200,000	101.82
Sales Returns and Allowances	200,000	1.82
Net Sales	$11,000,000	100.00
Cost of Goods Sold	9,500,000	86.31
Gross Margin	$1,500,000	13.69
Selling and General and Administrative Expenses	1,200,000	10.90
Operating Profit	$ 300,000	2.79

This statement alone is not nearly as informative as a series of such statements would be, but it does reveal that:

The cost of goods sold amounted to	86.31	per cent of sales
The selling and general and administrative expenses amounted to	10.9	per cent of sales
The operating profit amounted to	2.79	per cent of sales

The capital stock of the company as shown on the balance sheet was \$8,000,000. Therefore, profits were $\frac{300,000}{8,000,000}$ or 3.75 per cent of the capital stock, and somewhat less on the invested capital.

This information is useful, but the following questions are not answered. Are these percentages reasonable? Is the cost of goods sold a reasonable percentage of sales? Are the selling and general administrative expenses a reasonable percentage of sales? Is the operating profit a reasonable percentage of sales? To determine whether something is right or wrong, good or poor, a comparison must be made with something else. Actions of human beings are compared with moral codes that have evolved through the generations. Medical men have much information on temperatures, blood pressure, and heart action which enables them to judge the condition of a patient. To determine whether or not the above expenses and profit are reasonable, comparisons may be made with: (1) Predetermined standards, (2) Other enterprises, and (3) Other years.

The use of predetermined standards has been briefly discussed in Chapter XXVI and will be discussed again in Chapter XXXV, Budgetary Control.

Comparisons with other years will later be discussed under the heading Comparative Profit and Loss Statement.

Comparisons with Other Enterprises. Many trade associations encourage their members to compare profit and loss data. The associations identify their members by number, and provide each member with data on the sales, costs, and expenses of other members or groups of members. In this way the member can compare the percentages of his various expenses to sales or to the total expenses, with those of other enterprises which appear to be similar. Such comparisons are made to enable the member to detect inefficiency within his organization. But at best they are rather inconclusive, as the different conditions under which different companies operate may explain differences in expense relationships. They may, however, indicate expenses that should be investigated.

A prerequisite to such comparisons is a uniform accounting system, otherwise the comparisons will be practically worthless. If one company classified as direct labor, labor that another company classified as indirect labor, a comparison of the indirect labor of the two companies would be meaningless. Even with standard accounting systems the comparisons will do little more than reveal particularly bad situations.

Now, let us examine some of the expense classifications on the profit and loss statement. If we refer to the statement of the Arco Rubber Co., the cost of goods sold is seen to be 86.31 per cent of net sales. When compared with the percentages of other companies in the same industry this seems a little too high, but if this company were working at a lower percentage of capacity than the others, this might account for the difference, as the fixed expenses would be a higher percentage of sales.

If it is known that the Arco Rubber Co. was operating at capacity, we must look elsewhere for the difference. The annual report of the company reveals that the cost of goods sold was $9,500,000, which was made up as follows:

	Amount	*Per Cent of Total*
Materials	$6,500,000	68.4
Labor	2,200,000	23.2
Overhead	800,000	8.4
Total	$9,500,000	100.0

The overhead was 8.4 per cent of the total cost of the goods sold, and about 7 per cent of sales. These percentages are a little higher than those of competing companies. Further analysis shows that depreciation of slightly over $400,000 accounts for over 50 per cent of the overhead. Since the cost of the plant was $4,000,000 the depreciation is 10 per cent per year

compared with a rate of about 6 per cent for the competing companies; here is a considerable portion of the difference.

Materials account for 68.4 per cent of the cost of goods sold, but for most other companies the percentage is a little lower. Since prices of raw materials were rising in 1936 it is possible that this company did not buy as advantageously as the others, although it was capable of buying in sufficiently large quantities to obtain as high quantity discounts as the other companies. Consequently, it is quite possible that this difference would be temporary. This higher cost of materials, along with the difference in overhead, accounts for almost the entire difference in the cost of goods sold.

Labor costs of about 23 per cent of the total cost are approximately the same for all companies.

The *selling and general and administrative expenses* of this company amount to 11 per cent of sales. Compared with 9 per cent for competing companies, this is 2 per cent higher. Further investigation reveals that the percentage of the advertising expenses to sales is higher than that of the other companies, and this accounts for about half the difference. Increased sales may possibly be obtained from this advertising; if so, a portion of the advertising should have been deferred and shown as an asset. On the other hand, the sales resistance to this company's products may be greater than to the products of its competitors, necessitating higher advertising expenses.

The other 1 per cent of difference is made up of small variations in numerous expenses, and is very difficult to explain. More strict control of expenses might eliminate these.

The operating profit of 2.7 per cent of sales and 3.75 per cent of the capital stock is low when compared with the operating profits of other companies, which are from 6 to 12 per cent of the capital stock. The percentage of operating profit to sales when considered alone does not mean much. Many companies with a rapid turnover of inventories make high returns on their investment on a very small margin of profit, whereas others with smaller sales require a high percentage of operating profit to sales in order to make a reasonable return on their investment. The percentage of profit to the capital stock is more important.

In this case one would say without making any comparisons with another company that a return of 3.75 per cent on the capital stock is too low; this rate can be obtained on investments in industrial bonds. When money is invested in the common stock of an enterprise higher risks are assumed, and to compensate for these risks the rate of return should ordinarily be much higher than 3.75 per cent on the capital stock. The profits of the other companies are much more reasonable. It will, of course, be remembered that the depreciation policy of this company was respon-

sible for some of this difference, almost 2 per cent, so that the difference may not be as great as it appears; however, this percentage was low and consequently the market price of its stock was lower than that of its competitors.

The low percentage of the operating profit to sales does not necessarily mean that the management is inefficient. It may be an indication of inefficiency, but it is not conclusive. Some companies, because of some fundamental weakness such as poor location, or excess capacity that they have no chance to utilize, will not make a reasonable rate of return on the capital stock no matter how efficiently they are managed. Seldom are two enterprises found that are not different in many respects.

The deficiency in profits may be caused by insufficient sales. If a factory is not operating at a fairly high percentage of its capacity, it would not be unfair to state that its sales are insufficient. This condition may exist in a particular company for a short period of time, but if it continues for long it presents a very difficult problem to the management. Only an analysis of the market will reveal whether or not a fair share of the possible sales is being obtained. If there is a market for the goods, a more progressive sales policy might increase sales. But sometimes it will be impossible to sell economically the quantity of goods that the plant could produce. Then the only solution will be to find new products, or new markets. Often this cannot be done; if so, the company may be wise to liquidate some of its excess machinery and equipment, absorbing its losses.

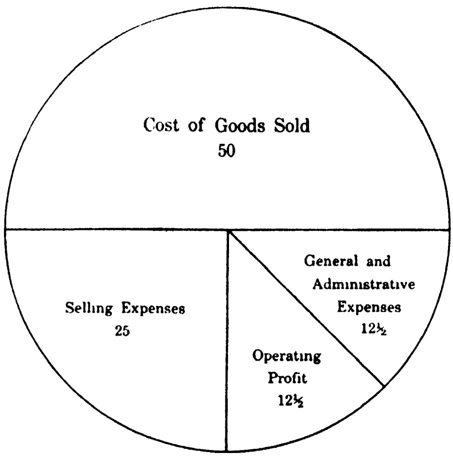
Limitations to Comparisons with Other Enterprises. The reader was warned that comparisons made with other companies must be interpreted very carefully. It was pointed out that there are many differences between different companies, and in addition there are other factors to consider. Depreciation policies, methods of inventory valuation, and repair and maintenance policies may be different.

Published reports may provide considerable information on depreciation rates and policies of different enterprises, but ordinarily we do not receive sufficient information on inventory valuations; usually a statement somewhat like the following is made: "Inventories were valued at cost or market whichever is the lower," but neither cost nor market is given. The published reports of some leading industrial companies now show the amount of the repairs made each year, and although there is no way of presenting adequate information on such expenses, one can obtain a general idea of the repair policy followed by comparing the percentage of such expenses to the cost of plant and equipment with the same percentage for other companies. For example, if the repairs of one enterprise are consistently a much higher percentage of plant and equipment than those of competitors, and if the plant is not old, it is quite likely that this enterprise

is charging as repairs costs that other enterprises are recording in asset accounts. Such policies may in some instances be a major factor in profit variations.

Also in comparing profits, one should be careful to see if nonrecurring costs or revenues are included in the profits. Some enterprises clearly earmark such items; others do not.

Sales Dollar Analysis. One method of presenting the percentages of expenses to sales is called the *sales dollar analysis*. The amount of net sales is taken as $1 and each expense is shown as so many cents of the sales dollar. One form of presenting such information is as a "pie chart," an illustration of which follows:



The above pie chart was made up from the following profit and loss statement percentages:

	Amount	Per Cent of Sales
Sales	$200,000	100.0
Cost of Goods Sold	100,000	50.0
Gross Margin	$100,000	50.0
Selling Expenses	50,000	25.0
	$ 50,000	25.0
General and Administrative Expenses	25,000	12.5
Operating Profit	$ 25,000	12.5

The cost of goods sold constitutes 50 cents of each sales dollar, selling expenses 25 cents, and general and administrative expenses 12.5 cents, leaving 12.5 cents as operating profit. The sales dollar analysis, which is simply a percentage method, may also be presented in the following form:

	Sales Dollar
Cost of Goods Sold	$0.50
Selling Expenses	0.25
General and Administrative Expenses	0.12½
Operating Profit	0.12½
	$1.00

The desirable feature of the sales dollar analysis is that the executive has the expenses presented to him in such a way that he can see the relative importance of each expense paid out of his sales dollar.

If the selling expenses in this example are analyzed further it will be found that the total selling expense is made up as follows:

Sales Salaries	$0.16
Commissions	0.03
Supplies	0.03
Delivery Expenses	0.0225
Sundry Selling Expenses	0.0075
	$0.25

Salaries, commissions, and supplies are the major items of expense. Possibly these expenses are reasonable; maybe they are not. It is impossible to tell until they are compared with some standards, or are studied by competent investigators. The limitations of the percentage method of analysis will be discussed later in this chapter.

Comparative Profit and Loss Statements with Percentage Analysis. When profit and loss statements for two periods are available, a comparison of percentages may reveal favorable or unfavorable trends. The following statement shows the percentage of each expense to sales for each of the 2 years, the change in dollars and cents, and the percentage of each amount for the second year based on first year.

	1936		1937			*1937*
	Amount	*% of Sales*	*Amount*	*% of Sales*	*Amount Change*	*as % of 1936*
Sales	$11,500,000	100.0	$13,500,000	100.0	$+2,000,000	117.4
Cost of Goods Sold	9,300,000	81.0	11,070,000	82.0	+1,770,000	119.0
Gross Margin	$ 2,200,000	19.0	$ 2,430,000	18.0	$ +230,000	110.4
Selling Expenses	1,500,000	13.0	1,890,000	14.0	+390,000	126.0
	$ 700,000	6.0	$ 540,000	4.0	−160,000	77.0
Gen'l & Admin'tive Expenses	500,000	4.4	525,000	3.9	+25,000	105.0
Operating Profit	$ 200,000	1.6	$ 15,000	.1	$−185,000	7.5

This statement reveals that the cost of goods sold increased 1 per cent, selling expenses increased 1 per cent, and the general and administrative expenses decreased 0.5 per cent, making a net decrease of 1.5 per cent in the operating profit. (Or, looking at it in another way, the sales of 1937 were 117.4 per cent of those in 1936; the cost of goods sold was 119 per

cent of that of 1936; the selling expenses 126 per cent; and the general and administrative expenses 105 per cent.)

The increase in the percentages of cost of goods sold and selling expenses may mean that the cost of the goods sold and selling expenses are too high. However, there is no conclusive evidence of this for a decrease in sales prices could cause these percentages to increase. Further research revealed that the prices charged by this enterprise did not decrease, but that the prices of raw materials were increasing more rapidly than sales prices.

A comparison is now made of the selling expenses for the two periods to determine the reason for the increase in the percentage of these expenses to sales:

	1936 Amount	*% of Total*	*% of Sales*	*1937 Amount*	*% of Total*	*% of Sales*
Freight Out	$ 465,000	31.0	4.03	$ 510,000	27.0	3.9
Salaries	410,000	27.4	3.56	425,000	22.4	3.1
Commissions	150,000	10.0	1.30	185,000	9.8	1.3
Advertising	300,000	20.0	2.60	500,000	26.5	3.7
Supplies	90,000	6.0	.78	135,000	7.2	1.0
Depreciation	35,000	2.3	.30	40,000	2.1	0.3
Miscellaneous	50,000	3.3	.43	95,000	5.0	0.7
	$1,500,000	100.0	13.00	$1,890,000	100.0	14.0

An examination of these expenses reveals that only advertising, supplies, and miscellaneous expenses increased more rapidly than sales. The advertising costs might possibly bring additional sales in the future; if so, they should not all be charged to the current accounting period. Assuming the accounting is sound, it would appear that the additional advertising had not been effective, for a reasonable increase in sales was not obtained.

The supplies and the miscellaneous expenses should be further analyzed to determine the reason for the increase in these expenses.

Limitations to Percentage Analysis of the Statement of Profit and Loss. The type of analysis explained in the preceding sections is based upon the assumption that an expense is reasonable if it does not increase more than in proportion to sales. It should be fairly obvious to the reader, from what has been said about fixed expenses, that this assumption is not necessarily correct. Certain fixed expenses should change very little with changes in volume of sales. Since each classification of expenses will usually include some fixed expenses, the percentage of each classification of expenses should decrease as sales volume increases. On the other hand there are instances where the percentage may increase with increased volume and the increase not be unfavorable. Obviously, the analyst should not accept changes in percentages at their face value; there are so many factors that cause the percentages to vary.

Although an increase in the percentage of the general and administrative expenses to sales is likely to be an unfavorable development, this is not necessarily true. One company hired a general manager at a salary sufficiently high to cause an increase in the percentage. Through his efforts sales were increased and all the other expenses decreased in proportion to sales, consequently the operating profits were higher in both amount and percentage of sales.

Although an increase in the percentage of cost of goods sold to sales might be beyond the control of the management it is usually considered an unfavorable development. However, in some rare instances the increase may be favorable. The percentage of cost of goods sold to sales in one company increased because the quality of the product was improved. This so decreased the sales resistance that the selling expenses dropped drastically in proportion to sales, and the operating profits increased.

To summarize, it may be said that the percentage of an expense group to sales should naturally decrease as the total sales increase, and that a constant or increasing percentage calls for attention but may not be an unfavorable development.

Balance Sheet Analysis. Although analysis of the profit and loss statement is now considered more important than balance sheet analysis, many a profitable business has been forced into receivership through the poor management of its finances. Information concerning the financial condition of an enterprise is provided by the balance sheet. Comparisons of balance sheets at different dates may reveal evidence of favorable or unfavorable developments. It must be remembered, however, that the financial condition of an enterprise may be changed radically by profits or losses; profits for a few years may greatly improve the financial condition of an enterprise.

The usual causes for an established profitable enterprise getting into financial difficulties are:

The lack of control of its inventories
The granting of too much credit
The unsound expansion of plant and equipment
The payment of too large dividends.

Expanding enterprises may make any of these mistakes, and also may accept more business than they have the working capital to handle.

Balance Sheet with Percentages. The balance sheet illustrated on page 611 contains two columns for percentages, one column for the percentage each asset is of the total of its group, and another column for the percentage each asset and each group total is of the total assets.

Other information commonly computed from one balance sheet is the amount of working capital, the current ratio, the percentage of the fixed

The Green Front Stores

Balance Sheet
December 31, 1940

ASSETS

			% of Group Total	% of Total Assets
Current Assets				
Cash		$ 5,000	14.7	7.6
Accounts Receivable	$20,000			
Less: Reserve for Doubtful Accounts	1,000	19,000	55.9	28.8
Inventory		10,000	29.4	15.2
Total Current Assets		$34,000	100.0	51.6
Fixed Assets				
Land		$20,000	62.5	30.3
Buildings and Equipment	$15,000			
Less: Reserve for Depreciation	5,000	10,000	31.3	15.1
Delivery Equipment	$ 3,000			
Less: Reserve for Depreciation	1,000	2,000	6.2	3.0
Total Fixed Assets		$32,000	100.0	48.4
Total Assets		$66,000		100.0

Sales $80,000

LIABILITIES AND PROPRIETORSHIP

		% of Group Total	% of Total
Current Liabilities			
Accounts Payable	$ 8,000	47.0	12.1
Notes Payable	9,000	53.0	13.7
Total Current Liabilities	$17,000	100.0	25.8
Fixed Liabilities			
Mortgage Payable	$10,000	100.0	15.1
Proprietorship			
Capital Stock	$20,000	51.3	30.3
Surplus	19,000	48.7	28.8
	$39,000	100.0	59.1
Total Liabilities and Proprietorship	$66,000		100.0

$$\text{Current Ratio} = \frac{34{,}000}{17{,}000} = 2{:}1$$

liabilities to the physical fixed assets, and the percentage of the outside equity in the business. Further consideration of these computations will be deferred until after the discussion of the comparative balance sheet.

The amount of information obtainable from one balance sheet is not great. Bad situations may be revealed, but if the enterprise is in reasonably good financial condition, a single balance sheet will not prove very informative. But the various percentages, the current ratio, and the working capital may be compared with similar items of other companies. Some of the typical of these comparisons will be discussed later in this chapter.

The Comparative Balance Sheet. An illustration of a comparative balance sheet is now presented:

The Reliance Traders

Comparative Balance Sheet
December 31, 1938, 1939

ASSETS

	1938	*1939*	*Change*
Current Assets			
Cash	$ 16,925.10	$ 8,660.40	$– 8,264.70
Accounts Receivable (net)	65,420.60	70,818.25	+ 5,397.65
Inventories	55,473.20	60,493.20	+ 5,020.00
U. S. Government Bonds	5,000.00	0.00	– 5,000.00
Total Current Assets	$142,818.90	$139,971.85	$– 2,847.05
Prepaid Expenses			
Insurance	$ 532.60	$ 622.05	$+ 89.45
Supplies	1,615.10	1,416.70	– 198.40
Total Prepaid Expenses	$ 2,147.70	$ 2,038.75	$– 108.95
Plant and Equipment			
Land	$ 8,000.00	$ 8,000.00	$ 0.00
Buildings (net)	33,647.20	32,816.10	– 831.10
Delivery Equipment (net)	2,618.10	2,015.20	– 602.90
Furniture and Fixtures (net)	1,524.40	1,350.40	– 174.00
Total Plant and Equipment	$ 45,789.70	$ 44,181.70	$– 1,608.00
Intangibles			
Goodwill	$ 15,000.00	$ 10,000.00	$– 5,000.00
Total Assets	$205,756.30	$196,192.30	$– 9,564.00

LIABILITIES AND PROPRIETORSHIP

	1938	*1939*	*Change*
Current Liabilities			
Accounts Payable, Accruals, etc.	$ 49,945.10	$ 44,415.20	$– 5,529.90
Notes Payable	0.00	20,000.00	+20,000.00
Total Current Liabilities	$ 49,945.10	$ 64,415.20	$+14,470.10
Proprietorship			
Capital Stock	$100,000.00	$100,000.00	$ 0.00
Surplus	55,811.20	31,777.10	–24,034.10
Total Proprietorship	$155,811.20	$131,777.10	$–24,034.10
Total Liabilities and Proprietorship	$205,756.30	$196,192.30	$– 9,564.00

	1938	*1939*
Sales	$365,275.50	$325,514.60
1939 Loss		$ 19,034.10

A column may be added for the percentage increase or decrease of each item from that of the previous period.

The purpose of such a statement is to show the changes that have taken place in the assets, the liabilities, and the proprietorship. The preceding statement shows that the current assets decreased $2,847.05, the current liabilities increased $14,470.10, hence the net working capital decreased $17,317.15. Although the volume of sales decreased, inventories and receivables increased while cash and investments decreased. The notes payable increased $20,000, but this was partly offset by a decrease of $5,529.90 in the accounts payable. Such changes in the current assets and current liabilities, although not always unfavorable, are unfavorable in this case. Since there was very little change in the fixed assets except the decrease of $5,000 in goodwill, the change in the net working capital was caused almost entirely by the loss for the period. Although the amount of the net working capital of this company is large, being $75,556.65, losses for a few years in succession would cause the company considerable difficulty. Either receivables or inventories would have to be drastically reduced or new short- or long-term credit obtained.

Another possible trend that such a statement supplemented with sales figures would reveal is an *increase of the fixed assets* in proportion to sales. This might not be an unfavorable trend, but if the net working capital were decreasing and the plant and equipment increasing, this development would bear watching.

The Trend of the Working Capital and the Current Ratio. The working capital and current ratio were discussed in Chapter XVI, where it was stated that whether or not the current assets are sufficient for the current needs of the business depends upon the terms extended to customers compared with those received from creditors, and upon the trend of the business, whether it is expanding or contracting. For a business receiving terms of 60 days credit and selling for cash the amount of the current assets needed would be relatively small, while an enterprise receiving terms of 30 days and selling on the installment plan would need a comparatively large amount of current assets.

The trend of the net working capital is important. Even though the current assets appear ample, a downward trend of this figure may mean future trouble. The net working capital for the Reliance Traders, whose comparative balance sheet was illustrated on page 612, was $92,873.80 in 1938 and $75,556.65 in 1939, a decrease of $17,317.15. The company actually lost $24,034.10 during 1939, but the net working capital did not decrease this amount because of the depreciation which entered into the loss. Although this company has substantial net working capital, this is needed; witness the loan from the bank in 1939.

The Ratio of Cash and Receivables to Current Liabilities. The ratio of cash, readily marketable bonds, and receivables to current liabilities is often called the "acid test." If these assets are less than the current liabilities the company will generally have trouble paying its bills. This is not always true, however, for if the terms extended to customers are much shorter than those received, a very low ratio might not be serious. In fact, many public utilities operate successfully with current liabilities greater than the cash and receivables.

Analysis of Accounts Receivable. Some evidence as to whether the collection of the receivables is being well maintained may be obtained by comparing the turnover of receivables on different dates, and by determining the number of days' sales in the accounts.

The turnover of the accounts receivable is determined by dividing the sales by the accounts receivable. For example, if the sales were $360,000 for the year, and the receivables average $60,000, the turnover of the receivables would be:

$$\frac{360{,}000}{60{,}000} = 6$$

If in the previous year the turnover of the receivables was 8, the trend would appear to be unfavorable. However, a change in the discounts granted to customers, or in the collection policy, might account for this variation.

The number of days' sales in the accounts may be determined as follows: If the sales for the year amounted to $360,000 and the number of business days was 300, one day's sales would be $1,200. If the accounts receivable amounted to $60,000, the number of days' sales uncollected would be $60,000 ÷ $1,200, or 50 days' sales. If the number of days' sales in the accounts has increased this might indicate that the credit manager was becoming lax.

Control of Inventories. The effective control of inventories is very important in the successful management of a merchandising or manufacturing enterprise. Even in comparatively small enterprises, an analysis of sales to determine the proper quantities of products to have on hand will usually be profitable. The trend since the year 1921 has been toward low inventories and high turnovers, although there are many exceptions to this policy. Many companies find it profitable to buy well in advance of their needs to obtain quantity discounts, and a comparatively few companies speculate somewhat in materials. It is expensive to carry high inventories; capital is needed, space is needed, insurance and taxes must be paid, and goods deteriorate or become obsolete. In addition, the risk of price changes is incurred.

An enterprise may make a rough check on the control of its inventories by determining the turnover of the inventories. This is best done by dividing the cost of goods sold by the average inventory. (If the cost of goods sold is not available, sales will serve as well when there has been no change in the mark-up.) To illustrate, let us assume that the inventory amounted to \$10,000 at the beginning of the year and to \$12,000 at the end of the year, an average inventory of \$11,000, and the cost of goods sold was \$66,000. The turnover of the inventory is said to be six times a year, computed as follows:

$$\frac{66{,}000}{11{,}000} = 6$$

If the turnover is decreasing, the reason should be determined.

The turnover of raw materials can be determined in the same way by dividing the cost of the raw materials used by the average inventory of raw materials.

Expansion of Plant and Equipment. Unsound expansion of plant and equipment has ruined many a successful business. Evidence of this is sometimes revealed by a consistent increase in the percentage of plant and equipment to total assets, or by a decreasing trend in the turnover of plant and equipment. This turnover is obtained by dividing sales by the cost of the plant and equipment. Obviously, as the plant is expanded the sales should be expected to increase. A decreasing rate of plant turnover over a period of years would indicate that a proportionate increase in sales is not being obtained.

Percentage of Fixed Liabilities to Plant and Equipment. The percentage of the fixed liabilities, such as bonds and mortgages, to the physical fixed assets is often computed by investors. If the bonds payable of an enterprise amount to \$1,000,000 and the plant and equipment to \$2,000,000, the ratio of the bonds to the plant and equipment is 50 per cent. A percentage as high as 80 or 90 would indicate comparatively little margin of safety to protect the bondholders if the current assets were dissipated.

Percentage of Debt to Total Liabilities and Proprietorship. If the total liabilities and proprietorship amount to \$100,000 and the debt to \$70,000, the percentage of the debt, sometimes called the *outside equity*, to total liabilities and proprietorship is 70. This percentage provides some evidence as to whether or not the enterprise is soundly financed. If the percentage is over 50, the creditors have provided most of the capital to finance the enterprise.

The Number of Times Bond Interest Is Earned. Usually when bond interest is covered two or three times, the interest is considered relatively secure. But observe the following:

	1928	1932
Net Profits	$600,000	$ 90,000
Bonds Payable	500,000	500,000
Interest on Bonds	30,000	30,000
Times Interest Earned	20	3

In 1932 profits were three times the amount of the bond interest, but the interest was not secure. It was earned only because the amount was so small. Profits have dropped from $600,000 to $90,000, and a further drop of only $60,000 in the profits would mean that the interest would be earned only once.

The Book Value of Common Stock and Preferred Stock. A very common computation made by investors is that of the book value of stock, especially of the common stock. The book value is distinguished from the market value and from the face value or par value of the stock. *The market value* of the stock is the price for which it can be sold, which depends more upon future earning prospects of the company than upon any other factor. The common stock of Bristol Myers Co. of a par value of $5 has not sold under $25 in years, whereas the common stock of American Car and Foundry Co., with a book value over $100, sold as low as $5 a share in 1932.

The book value of common stock is obtained by dividing the stockholders' equity in the proprietorship by the number of shares of stock outstanding. The equity of the common stockholders is usually made up of the amount of the common stock and the surplus. Therefore, the book value is ordinarily obtained by dividing the total of the capital stock and surplus by the number of shares outstanding. In equation form, the book value may be stated as follows:

$$\text{Book value of common stock} = \frac{\text{Common stock} + \text{Surplus}}{\text{Number of shares outstanding}}.$$

If cumulative dividends on preferred stock are in arrears, or if the preferred stock is participating, the entire surplus would not be part of the equity of the common stockholders, as the cumulative dividends in arrears represent a prior claim of the preferred stockholders to the surplus. Thus, if the preferred dividends in arrears amounted to $10,000, the holders of preferred stock would have a claim of $10,000 against the surplus. The book value of nonparticipating preferred stock is ordinarily obtained by dividing the total of the preferred stock and the preferred dividends in arrears by the number of shares of preferred stock outstanding.

Since surplus reserves are actually a part of surplus, the amount of these reserves should be added to surplus in determining the book value of

common stock. Thus the book value may be stated in more complete equation form as follows:

$$\text{Book value of common stock} = \frac{\text{Common stock} + \text{Surplus} + \text{Surplus reserves} - \text{Preferred dividends in arrears}}{\text{Number of shares outstanding}}.$$

A few examples of book value computations are now given.

Example 1. Determine the book value of the stock of the Conoco Co. with assets of \$1,000,000, liabilities of \$200,000, capital stock (par value \$100) \$500,000, surplus \$300,000. The book value is \$160 computed as follows:

$$\frac{500{,}000 + 300{,}000}{5{,}000} = \$160 \text{ per share}$$

Example 2. Determine the book value of both the common and the preferred stocks of a corporation with assets of \$550,000, liabilities of \$100,000, common stock (par value \$100) of \$100,000, preferred stock (par value \$100) of \$150,000, surplus of \$175,000, and a reserve for contingencies of \$25,000. The book value of the common stock is computed as follows:

$$\frac{100{,}000 + 175{,}000 + 25{,}000}{1{,}000} = \$300 \text{ per share}$$

The book value of the preferred stock is the par value of \$100.

Example 3. Determine the book value of both the common and preferred stock from the following data: assets \$400,000, liabilities \$50,000, no par value common stock (10,000 shares) \$150,000, preferred stock (par value \$100) \$100,000, sinking fund reserve \$25,000, surplus \$50,000, reserve for plant additions \$25,000. In addition, cumulative dividends of \$15,000 were in arrears on the preferred stock. The book value of the common stock is \$23.50, computed as follows:

$$\frac{150{,}000 + 50{,}000 + 25{,}000 + 25{,}000 - 15{,}000}{10{,}000} = \$23.50 \text{ per share}$$

The book value of the preferred stock is \$115 per share, computed as follows:

$$\frac{100{,}000 + 15{,}000}{1{,}000} = \$115 \text{ per share}$$

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What type of information can be obtained from the balance sheet and statement of profit and loss?

2. Why are uniform accounting systems important when comparisons are to be made of companies within the same industry?

3. Give several reasons why comparisons of the percentage of profits to sales should not be considered indicative of the efficiency of the management.

4. What is meant by "sales dollar analysis"?

5. What is a "pie chart"?

6. As sales volume increases, should all the expenses increase in proportion to sales?

7. Could profits increase if the percentage of every expense to sales increased during the period?

8. What is meant by the unsound management of the finances of an enterprise?

9. How might you obtain evidence of the unsound management of the finances of an enterprise?

10. Many business enterprises get into financial difficulties by accumulating higher inventories than are necessary. How might you find evidence of such a trend?

11. How might you detect evidence that the credit policy of an enterprise was becoming lax?

LABORATORY PROBLEMS

1. The following is the statement of profit and loss of the Wilton Lumber Co. for the year 1944:

Lumber Sales		$1,255,320
Cost of Lumber Sold		800,000
Gross Margin		$ 455,320
Selling Expenses	$110,600	
General and Administrative Expenses	64,720	175,320
Operating Profit		$ 280,000

(a) Make up a statement which will show each expense and the operating profit as percentages of sales.

(b) Make up a "pie chart."

(c) The following were the average percentages of expenses to sales for a group of other lumber mills: cost of lumber sold, 55 per cent; selling expenses, 7 per cent; general and administrative expenses, 6 per cent. How do the percentages of the expenses to sales of the Wilton Lumber Co. compare with those of the other companies?

2. The following are the profit and loss statements of Miller Tradon Co. for the years 1942 and 1943:

	1942	*1943*
Sales	$150,000	$120,000
Cost of Goods Sold	90,000	66,000
Gross Margin	$ 60,000	$ 54,000
Selling Expenses	$ 30,000	$ 18,000
General and Administrative Expenses	15,000	18,000
	$ 45,000	$ 36,000
Operating Profit	$ 15,000	$ 18,000

(a) Make up a comparative statement of profit and loss showing each amount as a percentage of sales, and showing the increase or decrease in 1943 as compared with 1942 in amount and as percentages.

(b) Account for the increase of $3,000 in the operating profit.

3. The following are the profit and loss statements of Keltner Bros. for the years 1943 and 1944.

	1943	*1944*
Sales (net)	$225,350	$275,000
Cost of Goods Sold	135,000	180,000
Gross Margin	$ 90,350	$ 95,000
Selling Expenses		
Sales Salaries	$ 15,000	$ 15,500
Advertising	6,000	4,500
Delivery Expense	4,250	4,600
Sales Supplies	1,750	2,100
Depreciation	1,300	1,300
Sundry Sales Expense	2,800	3,200
	$ 31,100	$ 31,200
General and Administrative Expenses		
Executive Salaries	$ 13,500	$ 14,600
Office Salaries	4,500	4,800
Office Supplies	800	900
Depreciation	2,300	2,300
Insurance, Taxes	400	450
Sundry General Expenses	900	1,150
	$ 22,400	$ 24,200
Operating Profit	$ 36,850	$ 39,600

(a) Make up a comparative statement of profit and loss showing the percentage of each expense to net sales; also show the increase or decrease of each expense in amount and percentage.

(b) Account for the variation in the percentage of operating profit to net sales.

4. On June 2 Mr. William Clift invested $3,000 in a business by depositing that amount in the First National Bank. On that date he paid rent of $150 for June. On June 5 he purchased merchandise for $2,000 cash. On June 20 he purchased merchandise for $1,500 cash. During June the sales were $2,200, all for cash. Sundry expenses of $125 for June were paid. The inventory on June 30 was $1,700.

(a) Make up a balance sheet for William Clift as of June 3.

(b) Make journal entries for the above transactions, including the adjusting and closing entries. Post to T accounts.

(c) Make up a balance sheet as of June 30.

(d) What changes occurred in this balance sheet as compared with the balance sheet as of June 3? Explain clearly what caused these changes.

5. The balance sheet of the Bestor Store on June 30, 1942, was:

Bestor Store

Balance Sheet
June 30, 1942

Assets			*Liabilities and Proprietorship*	
Cash		$ 2,500	Accounts Payable	$ 2,000
Inventories		3,000	Bestor Store, Proprietorship	11,500
Buildings	$12,000			
Reserve for Depreciation	4,000	8,000		
		$13,500		$13,500

The following is a summary of the transactions during July:

Sales for cash, $3,200.
Purchases on credit, $3,500.
Paid on accounts payable, $3,100.
Expenses paid, $375.
A truck was purchased on July 30 for $800 cash.
The depreciation of the building was estimated to be $60.
The inventory on July 31 was $3,100.

(a) Open the books for the Bestor Store as of July 1, 1942. Make journal entries for the above transactions, including the adjusting and closing entries. Post to T accounts.

(b) Make up a balance sheet as of July 31, 1942.

(c) What are the changes in the balance sheet of July 31, 1942, as compared with that of June 30, 1942?

(d) Explain the charge in the amount of cash.

6. The following are the balance sheets of the Southern Producers on December 31, 1943, and December 31, 1944:

	1943	*1944*
Cash	$ 10,000	$ 30,000
Receivables	40,000	50,000
Inventories	80,000	50,000
Plant and Equipment	250,000	350,000
Goodwill	20,000	
	$400,000	$480,000
Accounts Payable	$ 65,000	$ 50,000
Dividends Payable	15,000	
Mortgage Payable	100,000	90,000
Reserve for Depreciation	60,000	90,000
Capital Stock	100,000	250,000
Surplus	60,000	
	$400,000	$480,000
Other data:		
Sales	$200,000	$300,000
Cost of Goods Sold	100,000	180,000
Expenses	50,000	80,000
Operating Profit	50,000	40,000

Receivables, Dec. 31, 1942, $30,000
Inventory, Dec. 31, 1942, 70,000

Determine the following for the years 1943 and 1944: turnover of accounts receivable; turnover of inventories; current ratio; acid test; ratio of operating profits to capital stock.

7. (a) The following is a condensed balance sheet of the Humboldt Manufacturing Company: Assets $150,000, Liabilities $25,000, Reserve for Depreciation $20,000, Capital Stock $100,000 (1,000 shares), Surplus $5,000. Determine the book value of each share of common stock.

(b) The following is a condensed balance sheet of the Erickson Iron Works:

Assets $200,000, Liabilities $40,000, Common Stock $50,000 (500 shares), Reserve for Contingencies $20,000, Preferred Stock $50,000 (500 shares), Surplus $40,000. Determine the book value of each share of the common and the preferred stock.

(c) The following is a condensed balance sheet of the Western Car and Foundry: Assets $600,000, Current Liabilities $40,000, Bonds Payable $150,000, Reserve for Depreciation $60,000, Sinking Fund Reserve $50,000, no par value Common Stock (10,000 shares) $90,000, Preferred Stock (1,500 shares) $150,000, Surplus $60,000. Preferred Dividends in Arrears were $18,000. Determine the book value of each share of common stock and preferred stock.

(d) Make up a balance sheet for the Western Car and Foundry from the facts given in part (c) which were as of December 31, 1938.

8. The following are the balance sheet accounts of the New Haven Grocery: Cash $3,500, Accounts Receivable $3,000, Inventory $2,500, Buildings and Equipment $22,000, Accounts Payable $4,300, Emergency Fund $3,800, Reserve for Doubtful Accounts $300, Reserve for Depreciation $5,500, Bonds Payable $6,500, Prepaid (Unearned) Rent Revenue $1,500, Paid-In Surplus $700, Capital Surplus $5,000, Capital Stock $6,000, Surplus $5,000. The number of shares of stock outstanding is 100. What is the book value of each share of the stock? Give your computation in detail.

9. The following is the balance sheet of the XYZ Corporation:

Assets		*Liabilities and Proprietorship*		
Cash	$ 25,000	Accounts Payable	$ 20,000	
Accounts Receivable	55,000	Bonds Payable	50,000	$ 70,000
Inventory	38,000	Reserves:		
Buildings	200,000	Bad Debts	$ 3,000	
		Depreciation	15,000	
		Contingent	25,000	
		Income Tax	2,000	45,000
		Common Stock (500 shares)	$ 50,000	
		*Preferred Stock (200 shares)	20,000	
		Surplus	133,000	203,000
	$318,000			$318,000

* Preferred Dividends in arrears $5,000.

(a) Determine the book value of the preferred stock.

(b) Determine the book value of the common stock.

10. The following are the statements of the Continental Fibre Co. for the years 1932 and 1933:

	1932	*1933*
Sales (net)	$2,729,702	$3,712,731
Cost of Sales	$2,245,668	$2,774,422
Operating Expenses	710,146	706,060
Depreciation	459,491	435,716
Total Expenses	$3,415,305	$3,916,198
Operating Loss	$ 685,603	$ 203,467
Taxes		2,295
Other Income	21,526	29,632
Net Loss	$ 664,077	$ 176,130

Analysis of Surplus

Deficit, Jan. 1, 1933	$ 651,594
Prior Period Adjustments	66,998
	$ 718,592
Net Loss	176,130
Deficit, Dec. 31, 1933	$ 894,722

Changes in Reserve for Depreciation

Reserve for Depreciation, Jan. 1, 1933	$5,543,634
Depreciation for 1933	435,716
Balance of Reserve for Depreciation, Dec. 31, 1933	$5,979,350

	1932	*1933*
Land, Buildings, etc.	$ 9,699,893	$ 9,733,315
Patents, etc.	1	1
Cash	773,523	876,683
*U. S. Government Securities (market)	101,000	100,900
New York States Notes (cost)	200,768	100,069
Canadian Government Bonds (cost)	53,699	
Notes and Accounts Receivable (net)	383,158	514,204
Inventories (cost or market)	1,630,089	1,713,688
Special Deposits	55,017	46,940
Advances to Employees	20,633	10,105
Sundry Investments (cost)	46,339	18,133
Investments in and Advances to Subsidiaries	13,791	106,640
Prepayments	19,917	16,798
Reacquired Stock (cost)	239,991	261,040
	$13,237,819	$13,498,516
Accounts Payable	$ 167,547	$ 235,656
Reserve for Depreciation	5,543,634	5,979,350
Capital Stock	2,525,000	2,525,000
Capital Surplus	5,653,232	5,653,232
Deficit	(651,594)	(894,722)
	$13,237,819	$13,498,516

* Decrease in 1933 due to change in market value.

(a) Make up a comparative statement of profit and loss, showing each expense as a percentage of net sales.

(b) Determine the net working capital for each year.

(c) How do you account for the fact that the working capital increased during 1933 despite the loss incurred in 1933?

CHAPTER XXXV. BUDGETARY CONTROL

The Nature of Budgetary Control. The title Budgetary Control is misleading. To most people it implies restriction. They think of family budgets and government budgets, both of which imply a rigid control of expenditures, but budgeting in business is quite different. *Business budgeting is a procedure for planning, coordinating, and controlling the activities of the organization. This is accomplished by planning the revenue, expenses, expenditures, and finances of the business.* Every business enterprise is interested in planning and coordinating its sales, production, and finances. In fact all business enterprises attempt to do this, albeit the procedure followed may be very informal. A system of budgetary control simply provides a formal procedure to accomplish this.

Under a system of budgetary control an attempt is made to:

Base plans upon facts, not upon guesswork.

Coordinate the activities of the enterprise so that the entire organization is working toward a common objective.

Control the operations of the enterprise; that is, check performances with the plans to determine the reason for variations and to make the required adjustments.

There are two basic types of budgets, called the *static budget* and the *variable*, or *flexible budget*.

The Static Budget. The so-called static type of budgeting was very popular prior to the depression of the thirties. This is a type of budgeting procedure under which a forecast is made of the volume of sales for a particular period of time, such as one year. The expenses required to produce this volume of sales are then estimated, along with inventory requirements, production costs, finances needed, and expenditures for plant and equipment. More specifically, estimates are usually made of:

Sales, or revenue.
Inventories.
Purchases or production costs.
Selling expenses.
General and administrative expenses.
Other expenses and revenues.
Cash receipts and disbursements.
Expenditures for additions to plant and equipment.

The purpose of static budgeting is to obtain a well-coordinated plan for the entire organization. When this plan is worked out, estimates will

have been made of the sales and of the various expenses such as the selling and general and administrative expenses. The inventories required for that volume of sales will have been determined, and production and/or purchase schedules will have been made up to maintain these inventories. In addition, estimates of cash receipts and disbursements, called a *cash budget*, may be made. Finally, a plant budget may be made up.

The estimates of sales, expenses, and profits, called the *operating budget*, are supposed to be fair and reasonable estimates based upon facts. An attempt is made to enforce this budget, that is, to carry out this plan. As one executive has said, "It is enforced against everything but the logic of business facts." If the estimated sales are not obtained the reason for the deficiency is sought. If an adequate reason is not found, a determined attempt is made to obtain that volume. As one nationally known comptroller remarked, "We may find that some salesmen are skimming their territories, some are neglecting certain lines, and others are just loafing. We usually find that by a close check-up and follow-up we can bring them up to the budget estimates." When estimates are found to be wrong, the budget is revised, that is, a new plan is set up.

A study of the Statement of Profit and Loss Showing Variations from the Budget, illustrated on page 625, will provide a more definite idea of the use of the budget. The figures under the heading Budget are the estimates that were prepared in advance, and the figures under the heading Actual are the revenue and expense figures for the period. The amounts under the heading Variations are the variations of the actual from the estimated amounts. Supplementing this statement would be other budget reports showing details of the variations in sales and expenses. For example, a report on the selling expenses would be made up showing the variations from the budget figures.

The chief executive of the enterprise would be primarily interested in the Statement of Profit and Loss Showing Variations from the Budget. The supplementary reports would be sent to the executives responsible for those budgets. If the chief executive desired additional information concerning any of the variations from the budget, he could obtain this from the supplementary reports and from the other executives.

The Sales Budget. The sales budget is the estimated sales for the period. This budget may be based upon an actual study of the needs of customers and potential customers, and upon market and business factors. Ordinarily preliminary sales estimates are made up by the sales department. After these preliminary estimates have been studied by the production department, they may be revised by the sales department in order to provide the most economical sales and production volume, as it would be undesirable to prepare a sales budget which would result in an uneconomical

The Treadwell Stores

Statement of Profit and Loss Showing Variations from Budget
January 1 to March 31, 1942

	Actual	*Budget*	*Variations*
Sales	$589,800	$560,000	$+29,800
Less: Sales Returns and Allowances	12,000	10,000	+2,000
Sales Discounts	3,800	4,000	−200
	15,800	14,000	+1,800
Net Sales	574,000	546,000	+28,000
Cost of Goods Sold:			
Inventory	41,000	40,000	+1,000
Purchases (net)	415,000	400,000	+15,000
Freight In	11,000	10,000	+1,000
	467,000	450,000	+17,000
Inventory	60,000	50,000	+10,000
	407,000	400,000	+7,000
Gross Margin	167,000	146,000	+21,000
Selling Expenses:			
Salaries	50,000	45,000	+5,000
Traveling Expenses	24,000	22,500	+1,500
Commissions	5,800	5,000	+800
Advertising	6,000	5,000	+1,000
Supplies	4,300	3,800	+500
Depreciation	3,100	3,000	+100
Payroll Taxes	2,000	1,800	+200
Property Taxes	750	700	+50
Insurance	425	400	+25
	96,375	87,200	+9,175
Shipping Expenses:			
Salaries	3,900	3,600	+300
Freight Out	3,200	3,000	+200
Supplies	2,550	2,400	+150
Depreciation	1,000	1,000	0
Payroll Taxes	150	140	+10
Property Taxes	100	100	0
Insurance	100	100	0
	11,000	10,340	+660
General and Administrative Expenses:			
Officers' Salaries	12,000	12,000	0
Office Salaries	6,300	6,000	+300
Depreciation	2,000	2,000	0
Supplies	1,550	1,500	+50
Credit and Collection Expenses	6,100	6,000	+100
Bad Debts	2,100	2,000	+100
Payroll Taxes	730	700	+30
Property Taxes	200	200	0
Insurance	200	200	0
	31,180	30,600	+580
Total	138,555	128,140	+10,415
Operating Profit	$ 28,445	$ 17,860	$+10,585

production plan. In rare instances the sales budget is made up by the production department. This is done when certain combinations of products result in unusual production advantages, and when the enterprise processes whatever products come to the market. Examples of enterprises of the latter type are meat packers, oil refiners, and fish and vegetable canneries. Through advertising, sales promotion, and pricing policies, this quantity of goods is sold.

A report would be prepared for the sales manager for each month, or for even shorter intervals, which would show the actual sales, the budget, and the variations, as follows:

Sales Budget
January 1 to March 31, 1942

	Actual	*Budget*	*Variations*
January	$190,000	$185,000	$+5,000
February	180,000	175,000	+5,000
March	220,000	200,000	+20,000
	$590,000	$560,000	$+30,000

Whenever a budget report is made up an effort is made by the sales manager to determine the reasons for all substantial variations from the budget figures, and additional reports may be made up to provide data on those variations. For example, reports may be made up to show the sales variations by salesmen, by territories, by products, and sometimes by classes of customers. A study of these reports will usually indicate to the sales manager where he must concentrate his efforts if the budget is to be achieved. If despite his efforts the budget figures cannot be attained, the budgets are revised.

Expense Budgets. One of the chief purposes of budgetary control is to provide control over expenses and costs. This does not mean that the enterprise will be unreasonable in the control of its expenses, but it does mean that goods and services will be properly utilized and not wasted.

For successful budgeting, an enterprise should know the characteristics of its expenses and costs. It should know how its expenses should vary with sales and how its costs should vary with production. This information is necessary if intelligent estimates are to be made, and if changes are to be made in the expenses and costs as sales and production change.

Expense budgets are made up for all major classifications of expenses, such as selling expenses, advertising expenses, office expenses, and personnel expenses.

Different methods are followed in making the expense estimates. Some enterprises use the percentage method, others classify the expenses into such groups as fixed and variable, and others study each expense.

The common practice of using percentages for expense control is ordinarily unsatisfactory. Each expense or cost is supposed to be a cer-

tain percentage of sales or production costs. If a certain selling expense is supposed to be 5 per cent of sales, this percentage is applied to the sales estimate to obtain the amount of this expense for the selling expense budget. The fallacy of this method was explained in Chapter XXXIV. Some expenses should change very little with changes in sales, some should vary almost in proportion to sales, and others should vary somewhat but not in proportion to sales.

A much sounder method is to classify expenses, such as selling expenses, into fixed and variable expenses, and the latter group may be further subdivided. To illustrate, let us consider a business with sales of $800,000, fixed selling expenses of $50,000, variable selling expenses of $48,000 or 6 per cent of sales, and other expenses of $20,000 which should increase not in proportion to sales but only 50 per cent of a proportional increase. For sales of $1,000,000, the fixed selling expenses of $50,000 should change very little, the expenses of $48,000 should increase to $60,000, and the expenses of $20,000, which were 2½ per cent of sales, should increase by 1¼ per cent of $200,000, or $2,500, to $22,500.

In some rare instances enterprises study each expense to determine how it should vary with sales, but ordinarily this procedure costs more than it is worth.

The Production Budget. After the sales budget has been made up the inventories needed to provide this volume of sales are estimated, and production schedules are then made up to maintain these inventories. The raw materials costs, direct labor, and indirect manufacturing costs are then estimated to make up the production budget. Periodically, reports like the following would be made up:

Production Budget Report
January 1942

	Actual	*Budget*	*Variation*
Raw Materials	$ 80,000	$ 78,000	$+2,000
Direct Labor	90,000	92,000	−2,000
Indirect Manufacturing Costs			
Indirect Labor	11,000	10,200	+800
Factory Repairs	4,400	3,800	+600
Heat, Light, and Power	3,900	3,600	+300
Insurance and Taxes	1,300	1,200	+100
Depreciation	1,500	1,500	0
Factory Repairs	2,400	2,100	+300
Sundry Factory Costs	1,500	1,600	−100
	$196,000	$194,000	$+2,000

Additional reports may be made up by departments and products. These budgets enable the chief executive to determine the departments or products in which the variations occurred, and if he wishes additional information this can be obtained from the departmental executives.

The Variable or Flexible Budget. The terms *variable budget* and *flexible budget* refer to a type of budget procedure under which the emphasis is shifted from the sales forecast to expense and cost relationships.

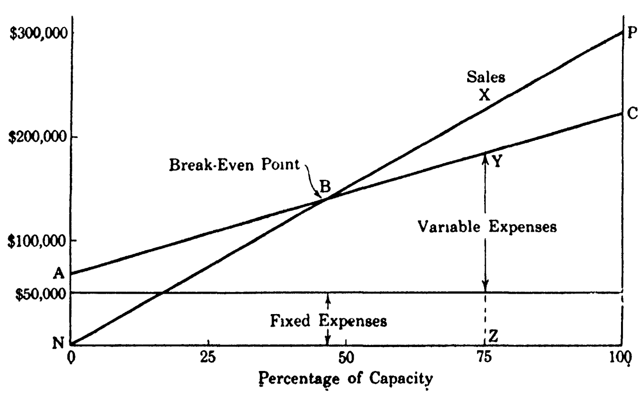
The advocates of this procedure believe that a reasonably accurate forecast of sales is not necessary for successful budgeting. They believe that the chief advantages of budgetary control can be obtained from a knowledge of the relationships of expenses to sales and of costs to production, and then keeping these expenses and costs as flexible as possible. In this way changes in the expenses can readily be made.

Certain expenses will vary with sales, which is true of many selling expenses. Some may vary proportionately, whereas others may vary, but not in proportion to sales. Some costs will vary with changes in the volume of production, while others will be relatively fixed.

A few companies are known which have carefully studied all but the minor expenses and costs of their business, and have prepared tabulations and charts of these for various volumes of business. However, most business enterprises group the expenses and costs according to the way in which they vary with changes in business volume, the two basic groups of this classification being the fixed and the variable expenses or costs. The variable expenses or costs may be classified into additional groups.

When the lag between sales and production is slight, a chart called the *break-even chart* may be made up. An example of such a chart is given below, which was made up from the following tabulation:

	Percentage of Capacity		
	50	*75*	*100*
Sales	$150,000	$225,000	$300,000
Fixed Expenses	50,000	50,000	50,000
Variable Expenses	90,000	135,000	180,000
Total Expense	$140,000	$185,000	$230,000
Operating Profit	$ 10,000	$ 40,000	$ 70,000



The percentage of operating capacity is shown along the base line. The vertical scale is in dollars. The variable expenses are superimposed on the fixed expenses so that the vertical distance from any point on the base line to the line ABC represents the total expenses. The distance from base line to the line NP represents the sales. For instance, at 75 per cent capacity the line XZ represents the sales, the line YZ the expenses, and the line XY the approximate profit.

The fixed expenses of an actual business would not ordinarily be as uniform as those shown in the chart, nor would the variable expenses always fluctuate proportionately with the sales. However, for a particular enterprise the characteristics of the expenses can be determined with a sufficient degree of accuracy to provide the management with a good idea of what is happening to profits.

When an enterprise operates under a variable budget the orders received from the customers are carefully tabulated and studied to determine what volume of business is being done. An attempt is then made to adjust the expenses and costs to what they should be for that volume.

When sales are decreasing, an attempt is made to decrease the expenses and costs, but this cannot be done indefinitely. A point may be reached eventually at which all the expenses and costs are fixed as long as the business continues to operate. This was the situation of many companies in 1932. During 1930 and 1931 they had been able to adjust their expenses and costs to the decreasing sales volume, but in 1932 it was found impossible to make further downward adjustments.

Comparison of the Static and Variable Budget. The differences in the two types of budgeting are not as great as they seem, the difference being chiefly in emphasis. Under the static type of budgeting the emphasis is upon the forecast of sales, whereas under the flexible type the emphasis is upon the relationship of expenses to sales and of costs to production.

Actually, a sales estimate is needed under the flexible budget, and estimates of the expenses and costs for various volumes of sales and production are needed under the static budget. Every business, including those using the flexible budget, estimates its sales. The estimate may be informal but it is made before purchase orders are placed. Expense control is important in static budgeting. Companies that set up a static budget must know what their expenses should be for different volumes of sales and what their costs should be for different volumes of production. Otherwise they would not be in a position to make the proper changes when their sales estimates were found to be incorrect.

For both types of budgeting the executives require a great deal of information about the business. If the necessary information is not available at the start, it will not be long before the various executives are asking

questions and trying to obtain information that they had never thought of before.

Some firms may operate under one type of budgeting at one time and switch to the other type when conditions are different. Some companies which had followed the static budget procedure prior to 1929 changed to the variable budget after 1929 because forecasts of sales were very difficult to make with reasonable accuracy.

There are other companies which cannot use the flexible type of budget but which must make a forecast of sales in good times or bad. This is true of firms with long purchase or production periods. For example, a mail-order firm must prepare a catalogue of the articles it has for sale. Before the catalogue can be made up, the quantities that are to be purchased must be determined so that the prices can be set. Also purchase orders must be placed long before the sales are made. All this requires a forecast of the sales, and in order to make this successfully, detailed records must be kept of past sales. Every style, size, and color of men's suits sold must have been carefully tabulated. From this information on the past sales, and from information on business conditions, the quantity that will be sold in the subsequent period must be estimated. Style changes and even color changes must be forecast. This can be done much more accurately than one would imagine, as colors and styles usually run in cycles. Once the sales forecast is made, all costs and expenses are determined even to the cost of listing the article in the catalogue. Finally, the net profit is estimated. In ordinary times, such estimates made by many companies are surprisingly accurate.

The Cash Budget. Another important budget that is frequently prepared is the cash budget, the purpose of which is to show the cash position of the enterprise at various times during the year and at the end of the year. This budget is usually made up in cumulative form by months. From it the enterprise can determine at what times during the year it must borrow funds for short-term financing, and it can also determine when these funds can be repaid. In this way it will be very useful to the financial officers of the enterprise.

This budget starts with the cash at the beginning of the budget period, to which is added the estimated cash receipts for the period to obtain an amount from which the estimated cash disbursements are deducted, leaving the cash balance at the end of the period.

The different sources of cash receipts are cash sales, collections from customers, interest revenues, bad debts recovered, and the like.

Cash is disbursed for many purposes; to pay creditors, for payrolls, rent, interest, taxes, insurance, etc.

The Benefits Obtained from Budgetary Control. Many benefits are obtained under a system of budgetary control because:

A wide-awake, thinking, coordinated organization is developed.
An immense amount of factual information about the business is obtained.

Under a properly functioning system of budgetary control an organization is developed that is looking forward, not backward; one that relies upon facts, not upon guesswork. Every major executive will be scrutinizing the costs and expenses for which he is responsible. He will be thinking not of his own department alone, but of the entire enterprise, and looking for ways of eliminating waste and for better ways of doing the job. With this spirit prevailing in the organization, the effects should be far-reaching. With the organization in a thinking, inquiring state of mind the benefits obtainable will be limited only by the abilities of the personnel.

However, these advantages will not be obtained automatically. Work and salesmanship are required on the part of the major executives if the budget is to be a success. Systems of budgetary control can fail and have failed. The idea must be sold to the organization and this salesmanship kept up until the budget has sold itself. This can come only through successful experience.

There are few valid objections to a budgeting procedure properly applied. But numerous objections will be raised to a proposal to start such a system as it is human nature to object to change. Change disturbs our complacency. Arguments that the budget means restriction will be advanced. Actually it does not. In fact, it should result in more flexibility than ever before. The objection is sometimes raised that labor will suffer under such a system. Although almost anything can be abused, labor has not generally suffered under systems of budgetary control.[1] In fact, the contrary is generally true. The budget procedure will usually disclose wastes and possible savings thereby enabling the expenses and costs to be reduced and sales and profits increased. This permits both the employment of more workers and better earnings for those employed. Because of the increased knowledge obtained from budgetary control an intelligent attack will usually be made upon such problems as seasonal variations in sales. Greater stabilization in sales will usually be obtained and consequently more stable employment for the workers.

The argument may be advanced that sales cannot be estimated with any degree of accuracy, hence budgeting will not work—it is something fine for someone else, but not for that particular business. Such a business

[1] See M. L. Cooke and Philip Murray, *Organized Labor and Production*, Harper & Brothers, New York, 1940, Chapter 11, on Operating Control.

probably needs budgeting more than one for which sales estimates can be accurately made; even inaccurate forecasts are better than none. In addition, planning and flexibility are important aspects of budgeting. The more uncertain the volume of sales, the greater is the need for planning and for flexibility in the business. Even static budgeting may be successful when sales estimates cannot be accurately made. When the volume is determined the controllable expenses can be brought into line with sales.

Let us see how the budget might have benefited a company that we shall designate as the XY Products Company which had a rather unfortunate depression experience, an experience which could have been avoided. The year 1933 happened to be the most difficult of all the depression years for this particular enterprise. In fact, serious losses had been avoided until that time. At the beginning of that year the business had a large cash balance and very few liabilities. The officers knew that the first half of 1933 was unprofitable, but they did not know how serious the drop in sales was. By August, the large cash balance had become an overdraft. Something had to be done, as expenses and costs had gone on uncontrolled. The officers had drawn large salaries, and the employes had taken no salary reductions of importance. To save the business, very drastic adjustments had to be made. These were much more severe than would have been necessary if reasonable changes had been made earlier.

Recovery for this company has been very slow and very difficult because of the lack of working capital. The owners, officers, and workers would all have been better off if the adjustments had been made earlier. This could and would have been done if the owners had really known what was happening. They knew that sales were low, but they did not realize how seriously the profits and finances were affected. A very crude system of budgetary control would have prevented this disaster, which almost terminated the life of this enterprise and which has seriously handicapped it since 1933.

Dangers of Budgetary Control. The chief danger of budgetary control is that in the zeal for fact control the human element will be ignored to the detriment of the enterprise. Care should be taken to see that this does not happen.

If it does not, a system of budgetary control should be of great assistance in developing an organization with high morale. The substitution of facts for guesswork is seldom detrimental to morale, but has the opposite effect.

On the other hand, the human element may be ignored in the attempt to make profits in the short run. Wages may be cut and employees laid off simply to increase the immediate return to the stockholders. If this policy is carried to the extreme the effect may be so injurious to the morale of the

organization that the success of the enterprise in the long run will be jeopardized.

A few companies did go to this extreme in the first half of the 1930 to 1940 decade. The morale of their workers and executives was so bad for a few years that many executives of one of our large national corporations stated that this company would not be in business in 10 years. That corporation is still in business, but the workers are now strongly organized and will undoubtedly see to it that there is no recurrence of its policy of the early thirties.

Most enterprises which have used systems of budgetary control have had intelligent leadership, leadership which has used the budget as a tool for the development of a better and more cooperative organization. The results have been, as explained in the preceding section, beneficial to all members of the organization.

Who Budgets. Almost every type of enterprise practices budgetary control: public utilities, railways, stores, banks, hotels, universities, hospitals, restaurants, etc. The American Telephone and Telegraph Company and its subsidiaries have been pioneers in this field. Years ago, when their forecasts of revenue were first started, many of the executives thought that because of the many variables involved reasonable accuracy was impossible. A great many factors affect both the installation and removal of telephones and the revenues from long distance calls. In fact, the revenues are very difficult to predict. Nevertheless, the estimates have been made with such a high degree of accuracy that most subsidiaries of the American Telephone and Telegraph Company consider the budget indispensable.

Budgeting is not dependent upon the size of an enterprise. A small enterprise may be in as much need of planning, coordination, and control as the large enterprise. Although an unusual executive may be able to provide this coordination and control without a budget, the budget provides a more permanent means of control.

Seasonal fluctuations and other factors may complicate the problem for the small business, but make the need for budgeting only more urgent. The fact that the volume of business fluctuates greatly may make the budgeting procedure more difficult but is no excuse for not budgeting.

Organization. The budget not only must be made up but must be supervised. This is usually done by the budget committee, and in a large company there might be many subcommittees. The budget committee will be composed of the executives who are responsible for the execution of the budget that is decided upon. The chairman of this committee should be the president or general manager. This is necessary in order to assure the success of the budget, which depends upon cooperation, research, and intelligent planning by all the executives. The work will not be done prop-

erly unless the executives are impressed with its importance. The president or general manager must see that its importance to the company is understood by all. If support is not given by the chief executive the budget can easily become a farce.

Whoever is in charge of the budget will usually act as secretary of the committee. There is no uniformity in business enterprises as to which executive this should be, but most authorities agree that the controller is the logical person. However, many controllers do not have the training to supervise budgeting properly; others do not have the time or interest. As a result we find many different officers in charge of the budgetary procedure. In one large mail-order firm the treasurer is in charge. In many factories the controller is in charge. In one large public utility the executive is called the "Budget Director" and is responsible to a vice-president. In another instance the officer is given the title of Vice-President.

Responsibility for Estimates. The estimates have been mentioned many times in previous paragraphs, but as yet nothing has been said about the responsibility for making these estimates. There is no consistent policy followed in business.

In some instances the budget director and his staff make the estimates from the information at their disposal. The argument in favor of this method is that these men know more about the business, its variations, and the internal relationships than anyone else in the organization.

On the other hand, those who are to carry out the budgetary program should have something to say about the estimates. Otherwise they will "pass the buck." An executive will say that he had nothing to do with the estimates, and that they were wrong in the first place. For this reason, most enterprises prefer to have the estimates made by those responsible for the execution of the budget. The sales and selling expense estimates, for example, would be made by the sales organization. The operating executives will make the budget a success or a failure. If they make their own estimates, they will do all in their power to carry them out. The objection to this method is that these individuals usually do not have sufficient information or the time to enable them to make fair estimates. In addition they would not do the clerical work necessary. However, even under such circumstances these executives can make up the budget, in cooperation with the budget officer.

In manufacturing enterprises the estimates will pretty well take care of themselves when the operating executives prepare them. It will be recalled that one objective of the budget is to obtain a coordinated plan for the enterprise. Sales, advertising, production, and finance must be coordinated. This means that the estimates will be the result of the combined efforts of the operating executives who make up the budget committee.

In merchandising enterprises the departmental buyers ordinarily make the estimates.

Enforcement. Once the budget procedure has been decided upon and the plans made, the budget should not be forgotten but kept very much alive. If the static type of budget is in use, a determined effort should be made to enforce that budget. If this is not done, the budget will soon become a thing of the past, an idea "that was tried but didn't work in our company." Careful comparisons must be made with the budget as the actual figures are obtained, and any major discrepancies must be accounted for. If the executives know that budget figures are important, they will have a great deal of respect for the budget and will endeavor to get results. These frequent comparisons will do much to keep the executives thinking. They will often be anxiously awaiting the actual figures to see if they have succeeded in reaching their "par." Summaries of the results should be sent to the chief executive of the business, and those responsible for the performance should know that the chief executive will be aware of their failures. Bonuses are often paid to salesmen and to sales executives for making or for exceeding their budgets, and to other executives for keeping their expenses within the budget figures. Rating scales and other non-financial incentives are also used.

If the flexible type of budget procedure is followed, the chief problem of enforcement is that of adjusting the expenses and costs to the volume of sales and production. If the budget is to mean anything, this must be done. This means that the minor executives, such as the foremen, must take an active part in the budgeting procedure, as they are the ones who must adjust most expenses and costs of their departments.

The Budget Period. If a sales forecast is made, the question arises as to the length of the budget period. Three very important factors enter into the determination of the length of the budget period. These are:

The seasonal variations in the business
The length of the production period
The extent of the fluctuations in the business.

Seasonal variations are important in the determination of the budget period of such companies, as mail-order concerns which have definite seasons for which they must prepare. Some mail-order firms make a 6-month forecast which is closely related to their catalogues. This budget is then broken down into monthly budgets. These companies must place orders well in advance of each season; consequently, the season becomes the logical budget period.

A publishing firm, with peak loads several times a year, usually makes its plans for the entire year. Its executives cannot wait until orders are

received, for its long production period makes rapid adjustments impossible. The production during any part of the year will seldom have any relationship to the sales of that period. These longer budgets are usually broken down into monthly budgets. If the actual monthly figures do not compare rather closely with the estimates, it may be necessary to revise the estimates for the entire period. In fact, frequent revisions during the period may be necessary when the estimates have been inaccurate. Nevertheless the company will have benefited from knowing what changes are taking place and adjusting itself to these changes in the shortest possible time.

As a general rule the greater the fluctuations in the business the shorter will be the budget period, because inaccuracy increases with the longer periods. An ice cream manufacturer may find that he cannot plan effectively more than a few days in advance, consequently he will make estimates for seasons and then break these down into very short periods. It is not necessary that all budgets be of the same length. The production budget might be set up for a period of one year, whereas the sales budget might be divided into two seasonal budgets.

Other budgets, such as the construction budget, will usually be made up for much longer periods. Some of the larger companies have 15-year construction budgets which are broken down into 5-year budgets, which in turn are further broken down into 1-year budgets.

Development of a System of Budgetary Control. Years ago J. O. McKinsey, one of the pioneers in budgetary control, outlined three requisites for successful budgeting.

> The responsibilities of the executives should be clearly defined so that each executive knows exactly what his responsibilities are to be.
>
> The account classification should be built around the executives responsible for the expense and revenue.
>
> The budget idea should be sold to the organization.

The responsibilities of executives should be clearly defined for two reasons. First, an incentive to do better work is provided, because if an executive realizes that he alone has certain responsibilities his mental attitude is quite different than when he shares the responsibility with others. Second, a clear definition of responsibility provides a basis for control. The chief executive knows whom he may hold responsible, not only for expenses but for revenues.

In order to make this control effective, the accounts must be classified in such a way that they will show the performances of those persons responsible for the budget. General expenses should be classified so that the expenses over which each executive has control are segregated. This is done in larger concerns by breaking up major expense classifications into subgroups corresponding with the persons responsible for those expenses.

If the budget is to be successful, "budgeting" must be sold to the organization, and this may require considerable preparatory and educational work. Several large stores introduced the budget without using the word "budget," purposely avoiding it because of the customary unfavorable reaction to it. Finally, the active support of the chief executive is essential for the success of the budget.

QUESTIONS AND PROBLEMS FOR CLASS DISCUSSION

1. What do you understand by the term *budgetary control?*
2. What is meant by the static budget?
3. Outline the procedure followed in making up the static budget.
4. Explain the flexible or variable budget.
5. What is the chief difference between these types of budgets?
6. What are the advantages of a system of budgetary control?
7. Explain clearly how you would make up a break-even chart for an enterprise with fixed expenses of $200,000 when the variable expenses approximate 60 per cent of sales.
8. Is the static budgeting procedure of any value when sales are extremely difficult to forecast with reasonable accuracy?
9. The Wholesome Foods Co. sales budget for January 1939 showed actual sales of $3,200,000 and budgeted sales of $3,800,000. This company sold in four territories. How would the sales manager use this information?
10. If the sales manager found that because of business conditions sales could not be brought up to the budgeted figures, what would the budget committee attempt to do?
11. Who should prepare the sales budget? The production budget?
12. What is meant by "enforcing the budget"?
13. What preparatory work is necessary for successful budgeting?

LABORATORY PROBLEMS

1. The fixed expenses of an enterprise are $200,000; the variable expenses are approximately 50 per cent of sales.

(a) Make up a break-even chart for this enterprise for sales of $300,000, $600,000, $900,000, and $1,200,000. (When sales are $1,200,000 the plant will be operating at capacity.)

(b) At what volume of sales will the enterprise break even?

(c) What would the approximate profit be when sales were $750,000?

2. The fixed expenses of an enterprise were $150,000; the variable expenses are approximately 60 per cent of sales.

(a) Make up a break-even chart for this enterprise for sales of $300,000, $600,000, and $900,000.

(b) At what volume of sales would this enterprise break even?

(c) What would the approximate profit be when sales were $600,000?

3. The fixed expenses of an enterprise increase gradually from $100,000 when sales were $200,000 to $125,000 when sales were $400,000, to $145,000 when sales were $600,000. The variable expenses were of two types: one group approximated 25 per cent of sales; the other group amounted to $20,000 when sales were $200,000 but did

not increase in proportion to sales but only increased at 50 per cent of what would be a proportional increase.

(a) Make up a break-even chart.

(b) At what volume of sales would the enterprise break even?

(c) What would the approximate profit be when sales were $500,000?

4. The following was a statement of profit and loss for the Wells-Halton Co. for 1936:

Sales	$600,000
Variable Expenses	200,000
	$400,000
Fixed Expenses	300,000
Operating Profit	$100,000

Early in 1937 sales were being made at a rate which would average $450,000 for the year. What action would the management have to take in order to avoid a loss in 1937?

5. It was estimated that the sales of the Weldon Co. for 1944 would be 20 per cent higher than during 1943. You are required to prepare a statement of profit and loss showing variations from the budget for the year 1944.

The following statements were for the actual revenues and expenses for the years 1943 and 1944:

	Year Ended Dec. 31, 1943	*Year Ended Dec. 31, 1944*
Sales	$375,000	$430,000
Cost of Goods Sold	300,000	352,600
Gross Margin	$ 75,000	$ 77,400
Selling Expenses		
Fixed	$ 12,000	$ 12,700
Variable	22,500	26,300
Office Expenses		
Fixed	9,000	9,500
Variable	3,750	4,900
Executive Expenses		
Fixed	10,000	10,400
Variable	7,500	10,500
Total Expenses	$ 64,750	$ 74,300
Operating Profit	$ 10,250	$ 3,100

The variable expenses are all expected to vary in direct proportion to sales.

PRACTICE SETS

PRACTICE SET 1

R. S. Stewart Problem

Part 1

The assets and liabilities of the R. S. Stewart Distributing Co., distributor of Wirex gears, as of July 1, 19xx, were as follows:

Cash	$ 932.20
‡Notes Receivable	400.00
Accounts Receivable	1,236.80
Reserve for Doubtful Accounts	95.20
Inventory	3,595.15
Sales Supplies	85.20
Office Supplies	20.25
Office Equipment	400.00
Reserve for Depreciation of Office Equipment	50.00
Sales Department Fixtures	190.00
Reserve for Depreciation of Sales Dept. Fixtures	85.00
*Prepaid Insurance	30.00
†Notes Payable	1,000.00
Wirex Manufacturing Co.	1,565.50
R. S. Stewart Distributing Co., Proprietorship	4,093.90

* Insurance for 6 months unexpired.
† A 6-month note to J. Wilson, due Dec. 31, and bearing 6 per cent interest.
‡ A $400 noninterest-bearing note from H. Jones maturing Oct. 1.

The total of the accounts receivable, $1,236.80, made up as follows:

Werner Pulp and Paper Co.	$ 226.40
Eastern Lumber Machinery Co.	169.60
Butte Hardware	186.40
Holman Lumber Co.	47.60
Tacoma Hardware	100.40
Harbor Pulp and Paper Co.	166.30
Mars Machinery Co.	340.10
	$1,236.80

Mr. Stewart had the following employees:

An office clerk at a salary of $50 each two weeks;
Mr. Russel, a salesman, at a salary of $150 each month, payable at the end of each month;
A truck driver at a salary of $60 each two weeks starting July 1.

Rent is $200 a month.

Mr. Stewart was the distributor of Wirex gears purchased from the Wirex Manufacturing Co. and sold to wholesalers and a few large industrial enterprises.

Terms of 2/10, n/30, were received from Wirex Manufacturing Co., and terms of 1/10, n/30, were granted on all credit sales. Allow discounts on all

partial payments made in cash within the discount period but not on notes. Cash sales are entered at the amounts stated in the problem.

The books of the R. S. Stewart Distributing Co. are to be opened as of July 1, 19xx. The following books are used:

A 2-column general journal
A 1-column purchase journal
A 1-column sales journal
A 5-column cash receipts journal with the following columns: General, Accounts Receivable, Sales, Sales Discounts, Cash
A 3-column cash payments journal with the following columns: General, Purchase Discounts, Cash
A general ledger, 13 sheets, 3 accounts to a page
An accounts receivable ledger, 4 sheets, 3 accounts to a page
An accounts payable ledger [not used in July], 2 sheets, 3 accounts to a page.

The ledgers will remain the same throughout the three months; changes in the books of original entry will be given each month.

The following accounts should be opened, 3 to the page, in the general ledger:

Cash
Notes Receivable
Notes Receivable Discounted [not used in July]
Accounts Receivable
Reserve for Doubtful Accounts
Inventory
Inventory of Gears [not used in July and August]
Inventory of Gaskets [not used in July and August]
Inventory of Lining [not used in July and August]
Accrued Interest Receivable
Sales Supplies
Office Supplies
Prepaid Insurance
Office Equipment
Reserve for Depreciation of Office Equipment
Sales Department Fixtures
Reserve for Depreciation of Sales Dept. Fixtures
Delivery Equipment
Reserve for Depreciation of Delivery Equipment
Accounts Payable [not used in July]
Notes Payable
Wirex Manufacturing Co.
Huston Motors
Accrued Traveling Expenses
Accrued Delivery Expenses
Accrued Office Expenses
Accrued Taxes Payable
Accrued Interest Payable
Sales Discounts
Cost of Goods Sold
Cost of Gears Sold [not used in July and August]
Cost of Gaskets Sold [not used in July and August]
Cost of Lining Sold [not used in July and August]
Purchases
Purchases of Gears [not used in July and August]
Purchases of Gaskets [not used in July and August]
Purchases of Lining [not used in July and August]
Purchase Returns and Allowances, Gears
Purchase Returns and Allowances, Lining [not used in July and August]
Freight In, Gears
Purchase Discounts
Sales Salaries
Traveling Expenses
Advertising Expenses
Sales Supplies Used
Depreciation of Sales Department Fixtures
Gasoline and Oil Used
Delivery Salaries
Repairs to Delivery Equipment
Depreciation of Delivery Equipment

Rent Expense
R. S. Stewart Distributing Co., Proprietorship
R. S. Stewart, Personal
Sales
Sales of Gears [not used in July and August]
Sales of Gaskets [not used in July and August]
Sales of Lining [not used in July and August]
Sales Returns and Allowances, Gears
Office Salaries
Office Supplies Used
Depreciation of Office Equipment
Insurance Expense
Light and Heat
Telephone and Telegraph
Tax Expense
Sundry Expenses
Bad Debts
Interest Expense
Interest Revenue
Bad Debts Recovered
Profit and Loss Summary

The following accounts should be opened, 3 to a page, in the accounts receivable ledger:

Butte Hardware
Brown and Hogart, Portland
Brown and Hogart, Seattle
Cascade Auto Parts
Coleman Auto Parts
Eastern Lumber Machinery Co.
Harbor Pulp and Paper Co.
Holman Lumber Co.
Idaho Mill Supply
Longmore Lumber Co.
Mars Machinery Co.
Miller-Nize Supply
Sand Marine Supply
Seattle Heavy Hardware
Spokane Hardware
Tacoma Hardware
Universal Auto Parts
Vancouver Mill Supply
Werner Pulp and Paper Co.
Wiseman, Geo.

The following are the transactions for July:

July 1 (Monday). Make the journal entry to open the books. Insurance for 1 year was purchased for $80 cash. Cash of $1,800 was borrowed from the National Bank for which a 3-month 8 per cent note was issued. A delivery truck was purchased from Huston Motors for $800; cash of $200 was paid, the balance to be paid in 12 equal monthly payments, without interest, commencing July 31.

2 An invoice, dated June 26, for $1,595.40 was received from Wirex Manufacturing Co., but the goods had not yet been received. A sale on credit was made to Vancouver Mill Supply, $85.90. Rent of $200 for July was paid to Carter Realty Co. A check was made out to *Western Mill Monthly* for $65.20 for an advertisement in the July 8 issue.

3 A check was received from Werner Pulp and Paper Co. for $226.40 less discount. A sale on credit was made to Sand Marine Supply, $143.90. A check for $1,565.50 less discount was mailed to Wirex Manufacturing Co.

5 The shipment covered by the invoice of June 26 from Wirex Manufacturing Co. for $1,595.40 was received and checked against the invoice. Freight In of $140.60 was paid to the Central Pacific Railway. A check for $169.60 was received from the Eastern Lumber Machinery Co.

6 A sale on credit was made to Seattle Heavy Hardware, $150.00. Mr. Stewart withdrew $50 cash.

9 The following sales were made on credit: Sand Marine Supply, $75; Werner Pulp and Paper Co., $65.00. A cash sale was made, $55.00.

10 The following sales were made on credit: Eastern Lumber Machinery Co., $260.40; Miller-Nize Supply, $342.10. Cash sales, $85.40.

11 An order for merchandise, $2,510.50, was mailed to Wirex Manufacturing Co. Envelopes and stationery for the office were purchased for $23.10 cash.

12 Seattle Heavy Hardware returned gears sold to them for $25.50 on the invoice of

July 6; a credit memo for $25.50 was issued to them. Stamps were purchased for $6.70 cash [office supplies].

13 A check was received from Werner Pulp and Paper Co. in payment of invoice of July 9. Cash sales, $30.45. Mr. Stewart withdrew $60 cash. A sale on credit was made to Geo. Wiseman, $39.50. The defective gears returned by Seattle Heavy Hardware on July 12 were repaired at a cost of $7.50 cash; this amount was charged to the Wirex Manufacturing Co. The salaries for the first two weeks were paid.

15 Seattle Heavy Hardware paid invoice of July 6 less deductions. The following sales on credit were made: Idaho Mill Supply, $340.80; Butte Hardware, $610.60; Holman Lumber Co., $75.80.

16 A sale was made on credit to Seattle Heavy Hardware, $160.80. A sale for $350.25 was made to Werner Pulp and Paper Co. for which a 60-day 6 per cent note was received.

17 Cash sales, $95.80. Received a statement of the traveling expenses of Mr. Russel, $75.60; this statement was approved by Mr. Stewart and a check for that amount was mailed to Mr. Russel. A check for $242.10 was received from Miller-Nize Co. and a 90-day noninterest-bearing note for $97.55 was received for the balance of the account.

18 A check was received from Sand Marine Supply for invoice of July 3. An invoice and shipment for $2,510.50 were received from Wirex Manufacturing Co., the invoice being checked and entered. Freight in of $250 was paid to Central Pacific Railway. A letter was received from Idaho Mill Supply in which credit of $27.50 was requested because of repairs that had to be made to defective gears; a credit memo for this amount was issued to them, and this amount was charged to Wirex Manufacturing Co.

19 A check was received from Eastern Lumber Machinery Co. for invoice of July 10.

20 Cash sales, $42.60. A check was made out for $9.60 for repairs to delivery truck. Mr. Stewart withdrew $75 cash.

22 Gears received on July 18 were returned to Wirex Manufacturing Co.; these gears were invoiced at $120.30.

23 A check was received from Seattle Heavy Hardware for invoice of July 16. The following sales were made on credit: Eastern Lumber Machinery Co., $185.90; Idaho Mill Supply, $165.80; Holman Lumber Co., $20.50. A check for $400 was received from Butte Hardware.

24 Cash sales, $23.45. The following sales were made on credit: Tacoma Hardware, $125.80; Vancouver Mill Supply, $140.10. A check was mailed to Wirex Manufacturing Co. for invoice for $1,595.40 less deductions of July 13 and July 18.

25 A sale was made on credit to Harbor Pulp and Paper Co., $75.40. Office supplies were purchased from Horton Supply Co. for $10.50 cash.

27 Cash sales, $59.25. The following sales were made on credit: Longmore Lumber Co., $139.30; Butte Hardware, $110.25. Salaries for two weeks were paid.

29 A sale on credit was made to Spokane Hardware, $385.50. Sales supplies were purchased from Newton Paper Co. for $85.50 cash. A check was received from Vancouver Mill Supply for invoice of July 2. A sale was made on credit to Tacoma Hardware, $85.40. Mr. Wiseman's business is closed; he is bankrupt; the balance of his account is written off.

31 A check was made out to Mr. Russel for his salary of $150. Checks were mailed for the gasoline and oil used during July, $73.10, the light bill of $13.50, and the telephone bill of $23.10, all for July. The payment was made on the truck.

Information for the adjusting entries:

Inventory of gears, $4,750.00
Office supplies on hand, $26.20
Sales supplies on hand, $78.50
Bad debts, estimated to be ½ of 1 per cent of total sales
Depreciation of office equipment, 10 per cent per year on cost

Depreciation of sales department fixtures, 20 per cent per year on cost
Depreciation of delivery truck; the truck is estimated to have a life of 3 years and a trade-in value of $200
Insurance?
Salaries, 3/12 of a two-week period unpaid
Russel's traveling expenses for the last half of the month were $95.20
Accrued interest expense?
Accrued interest receivable?
Taxes, estimated to be $10

(a) You are required to enter the transactions for July.

(b) Make up a schedule of the accounts receivable.

(c) Make up a work sheet.

(d) Make up a balance sheet and statement of profit and loss.

(e) Make the adjusting and closing entries. *Note:* It is the customary practice when interim statements are made up to dispense with the making of the adjusting and closing entries on the books. The student is instructed to make these entries in order to obtain practice.

(f) Balance the asset and liability accounts.

(g) Take a post-closing trial balance.

(h) Before he had started business Mr. Stewart had estimated that his cost of goods sold would be about 70 per cent of sales less sales returns and allowances and that other deductions from sales would be approximately as follows:

Sales discounts, 0.25 per cent of total sales
Sales returns and allowances, 1 per cent of total sales
Traveling expenses, 3 per cent of total sales
Gasoline and oil, 1.5 per cent of total sales
Advertising, 1.25 per cent of total sales
Sales supplies, 1.5 per cent of total sales
Repairs to delivery equipment, 0.25 per cent of total sales
Bad debts (net), 0.5 per cent of total sales
Office supplies and sundry expenses, 0.5 per cent of total sales
Interest cost (net), 0.25 per cent of total sales
Rent, fixed for sales up to $10,000 monthly, $200.00
Sales salaries, fixed for sales up to $10,000 monthly, $150.00
Delivery salaries, fixed for sales up to $10,000 monthly, $135.00
Office salaries, fixed for sales up to $10,000 monthly, $110.00
Heat and light, fixed for sales up to $10,000 monthly, $30.00
Telephone and telegraph, fixed for sales up to $10,000 monthly, $20.00
Insurance, fixed for sales up to $10,000 monthly, $10.00
Taxes, fixed for sales up to $10,000 monthly, $10.00
Depreciation of sales department equipment, $6.00
Depreciation of delivery equipment, $20.00
Depreciation of office equipment, $5.00

There was very little seasonal variation in sales.

The student is required to make up a statement showing the actual expenses for July, the estimated expenses, and the differences.

(i) Based upon the estimated expenses, determine the volume of sales necessary for the business to break even.

(j) What effect would double the sales required to break even have on the profit?

(k) After the break-even point is reached, how much would you expect the profit to increase for each $1,000 of additional sales volume?

(l) Make up a statement of profit and loss, showing the fixed and variable expenses.

(m) Would you as a manufacturer extend further credit to the R. S. Stewart Distributing Co.? Why, or why not?

Part 2

The R. S. Stewart Distributing Co. became the agents for the American Brake Co., the Arlene Supply Co., and the Garman Packing Co. Brake lining was obtained from the first two companies and gaskets from the latter.

You are to open the following accounts in an accounts payable ledger:

Wirex Manufacturing Co.
American Brake Co.
Arlene Supply Co.
Garman Packing Co.

Make a journal entry to close the Wirex Manufacturing Co. account and to open the Accounts Payable account in the general ledger, and to open an account for the Wirex Manufacturing Co. in the accounts payable ledger.

The cash sales are to be entered in both the sales journal and the cash receipts journal.

The books of original entry are exactly the same as those used in July except that a column headed Accounts Payable is added to the cash disbursements journal, and the Cash Sales column may be omitted in the cash receipts journal.

The following are the transactions for August:

Aug. 2 Cash sales, $25.45. Office supplies were purchased from the Western Envelope Co. for $9.50 cash. A shipment and invoice were received from the American Brake Co, $485.45, terms 2/10, n/30. (Terms of 2/10, n/30 are received on all purchases of merchandise).

3 The following sales on credit were made: Sand Marine Supply, $219.40; Coleman Auto Parts, $95.65. Sales supplies were purchased from Howard Bros. for $49.60 cash. A check for $95.20 was made out to Mr. Russel for his expenses for the latter half of July. A check for the August rent was made out to the Carter Realty Co., $200.

5 The following sales were made on credit: Universal Auto Parts, $75.65; Spokane Hardware, $411.15; Coleman Auto Parts, $59.75; Tacoma Hardware, $96.90. Cash sales, $25.60. Paid freight in to Central Pacific Railway, $92.10. A check was received from Holman Lumber Co. for the balance of July 31.

6 The following sales were made on credit: Harbor Pulp and Paper Co., $95.40; Idaho Mill Supply, $84.20; Holman Lumber Co., $85.60. A check was received from Sand Marine Supply for invoice of July 9. Cash sales, $42.20. Discounted Miller-Nize note of July 17, bank rate six per cent.

7 A check for $210 was mailed to Standard Equipment Co. for a typewriter purchased for $100, a desk and chair for $60, and filing cabinets purchased for $50. The following sales were made on credit: Brown and Hogart, Portland, $128.90; Eastern Lumber Machinery Co., $139.40. Cash sales, $25.35.

8 Freight out of $9.20 was paid on the shipment to Brown and Hogart, Portland; this

amount is to be charged to Brown and Hogart, Portland. A check for $300 was received from Butte Hardware as a payment on account.

9 A check was mailed to American Brake Co. in payment of invoice of Aug. 2. An invoice and shipment were received from Wirex Manufacturing Co. for $1,200.60. A check for $64.20 was made out to *Western Marine Journal* and a check for $32.10 to *Motor Magazine* for advertisements appearing in the August issues.

10 The salaries were paid for the two-week period. Freight in of $125.40 was paid to Central Pacific Railway. The following sales were made on credit: Tacoma Hardware, $98.40; Brown and Hogart, $215.80.

12 A check was received from Universal Auto Parts for invoice of Aug. 5. The following sale was made on credit: Coleman Auto Parts, $155.90. A check was received from Brown and Hogart for invoice of Aug. 7 plus freight. A check was received from Spokane Hardware for $385.50.

13 A check was received from Coleman Auto Parts for invoices of Aug. 3 and Aug. 5. A check was received from Tacoma Hardware for balance of July 31. A check for $55.60 was received from J. W. Barkus whose account was written off as bad during the preceding year.

15 Cash sales, $63.40. A sale was made on credit to Brown and Hogart, $146.80.[1] A check was received from Harbor Pulp and Paper Co. for balance of July 31. A credit memo for $26.40 was issued to Tacoma Hardware for defective lining returned by them, and a debit of $12.50 was made to American Brake Co.

17 A shipment and invoice were received from Garman Packing Co., $298.90. A check for $36.40 was made out to Central Pacific Railway for freight in. A sale on credit was made to Coleman Auto Parts, $88.25. Cash sales. $40.60.

19 A 60-day noninterest-bearing note for $139.30 was received from Longmore Lumber Co. for balance of account. A credit sale was made to Miller-Nize Supply, $211.40.

20 A check was received from Brown and Hogart for invoice of Aug. 10. An entry was made to record a shipment from Arlene Supply Co., $275.80. A check for $30.40 for freight in was made out to Central Pacific Railway. The bank returned an *n.s.f.* check for $25.60 received for a cash sale made to J. Hiles who signed the check but cannot now be located; the provision for bad debts was not supposed to cover such losses. The following sales were made on credit: Butte Hardware, $595.10; Longmore Lumber Co., $115.60.

21 A check was received from Tacoma Hardware for invoice of Aug. 5. The following sales were made on credit: Werner Pulp and Paper Co., $315.60; Universal Auto Parts, $225.40; Cascade Auto Parts, $270.70; Coleman Auto Parts, $216.50. Received invoice and shipment from American Brake, $534.20. A check for $45.60 was made out to Central Pacific Railway for freight in. Cash sales, $9.60. A sale on credit was made to Vancouver Mill Supply, $75.40. A shipment and invoice were received from Wirex Manufacturing Co., $1,742.20.

24 Salaries for the two-week period were paid. Freight in of $150.40 was paid to Central Pacific Railway.

27 The following sales were made on credit: Brown and Hogart, $395.80; Universal Auto Parts, $115.20; Cash sales, $40.80. Mr. Stewart withdrew $100 cash. A check was made out to Newton Paper Co. for sales supplies purchased for $62.10.

29 A check was made out to Garman Packing Co. for invoice of August 17. Cash sales, $15.90. A sale on credit was made to Harbor Pulp and Paper Co., $76.40.

30 A sale on credit was made to Tacoma Hardware, $118.60. Mr. Stewart used a company check to pay a personal bill of $75. A check was made out to Arlene Supply for invoice of Aug. 20.

31 A check was made out for the payment on truck. Checks were made out for the telephone bill of $18.90, gasoline and oil used during August, $61.10, for the light bill of $12.50, and for Mr. Russel's salary.

[1] Sales to Brown and Hogart are to Brown and Hogart, Seattle, unless otherwise stated.

Information for the adjusting entries:

Inventory, $6,200.
Sales supplies on hand, $90.50.
Office supplies on hand, $5.10.
Bad debts, estimated to be 0.5 per cent of sales.
Depreciation of office equipment, 10 per cent per year on cost [depreciate for one month].
Depreciation of sales department fixtures, 20 per cent per year on cost.
Depreciation of delivery equipment; truck has a 3-year life and a trade-in value of $200.
Insurance?
Salaries unpaid, 6/12 of a two-week period.
Russel's traveling expenses for the month were $165.10.
Estimated taxes, $10.
Interest expense?
Interest revenue?

(a) Enter the transactions for August.
(b) Make up schedules of the accounts receivable and accounts payable.
(c) Make up a work sheet.
(d) Make up a balance sheet and statement of profit and loss.
(e) Make the adjusting and closing entries.
(f) Balance the asset and liability accounts.
(g) Take a post-closing trial balance.
(h) Make up a statement showing the estimated expenses, the actual expenses, and the differences.
(i) Make up a statement of profit and loss showing the fixed expenses and the variable expenses.
(j) What effect will the addition of the new lines have on the finances of the business?
(k) What effect will the new lines have on costs?
(l) Have you any suggestions as to how the business may obtain the cash, now needed, without borrowing?

Part 3

Mr. Stewart decided that the records kept in August did not give him enough information so he asked his bookkeeper to make whatever changes were necessary to provide him with the gross margin on each line of goods sold. To accomplish this, the following purchases and sales journals were designed:

Purchase Journal

Date		Account Credited	Explanation		Accounts Pay.	Purch., Gears	Purch., Lin'g	Purch., Gaskets

Sales Journal

Date		Account Debited	Explanation		Accounts Rec.	Sales, Gears	Sales, Lin'g	Sales, Gaskets

The following additional accounts will now be needed:

Inventory of Gears	Freight In, Gears
Inventory of Lining	Sales of Gears
Inventory of Gaskets	Sales of Lining
Purchases of Gears	Sales of Gaskets
Purchases of Lining	Cost of Gears Sold
Purchases of Gaskets	Cost of Lining Sold
Purchase Returns and Allowances, Lining	Cost of Gaskets Sold

Make readjusting entries for traveling expenses, delivery salaries, and office salaries.

The inventory on August 31 was made up as follows:

Gears, $5,850
Lining, $200.80
Gaskets, $149.20

Make a journal entry to open the new inventory accounts and to close the Inventory account.

During September all freight payments are on shipments received from Wirex Manufacturing Co. The other suppliers have all established stocks of goods on the Pacific Coast and have agreed to pay freight on all shipments.

The following are the transactions for September:

Sept. 3 (Tuesday). Made out a check for $200 to Carter Realty Co. for September rent. The following checks were received: from Brown and Hogart, Seattle, $508.64; from Eastern Lumber Machinery Co., $325.30. The following sale was made on credit: Brown and Hogart, Seattle, gears, $385.20. A check was received from Miller-Nize Supply Co., $211.40, and a check was received from Cascade Auto Parts for invoice of August 21.

4 A check was made out to Mr. Russel for August traveling expenses, $165.10. A check was made out to Standard Office Supply Co. for office supplies purchased for $44.80. The following sales were made on credit: Holman Lumber Co., gears, $325.10; Idaho Mill Supply Co., gears $415.20, lining $75.40, gaskets $60.45, total $551.05. A check for $85.60 was received from Holman Lumber Co.

6 A check for $400 was received on account from Butte Hardware, and a check for $563.30 was received from Idaho Mill Supply Co. A sale was made on credit to Miller-Nize Supply, gears, $315.10, lining $85.40, gaskets $60.40, total $460.90. A shipment of lining was received from Arlene Supply Co., $114.10.

7 Checks were made out for salaries. The Werner Pulp and Paper Co. note of July 16 was discounted; the bank rate was 5 per cent. The following checks were received: from Coleman Auto Parts, $460.65, and from Harbor Pulp and Paper Co. for invoice of Aug. 6. A check for $2,000 was mailed to Wirex Manufacturing Co. A shipment of gaskets was received from Garman Packing Co., $115.20.

9 A check for $72 was received from Tacoma Hardware. The following sales were made on credit: Coleman Auto Parts, gears, $485.20, lining $95.80, gaskets $82.10, total $663.10; Seattle Heavy Hardware, gears $615.80, lining $115.20, gaskets, $90.60, total $821.60.

10 A shipment of gears was received from Wirex Manufacturing Co., $1,595.20. Freight on this shipment was paid to Central Pacific Railway Co., $150.25. A sale was made on credit to Vancouver Mill Supply, gears $115.80, lining $60.10, gaskets, $40.30, total $216.20. A letter was written to American Brake Co. asking for an allowance of $35.20.

11 Received a shipment of lining from American Brake Co., $200.40. A check was received from Spokane Hardware Co. for invoice of August 5. A sale was made on credit to Tacoma Hardware, gears, $210.40, lining $35.20, total $245.60. H. Jones noninterest-bearing note for $400, maturing Oct. 1, was discounted; the bank rate was 5 per cent.

12 A check was made out to Arlene Supply Co. for invoice of Sept. 6. Defective gears were returned to Wirex Manufacturing Co. and credit of $25 was asked for. A sale was made on credit to Universal Auto Parts, gears $210.20.

14 The following checks were received: From Holman Lumber Supply Co. for invoice of September 4, and from Idaho Mill Supply Co. for invoice of September 4. A shipment of gaskets was received from Garman Packing Co., $111.60.

16 Notice was received from the bank that Werner Pulp and Paper Co. had paid their note discounted on Sept. 7. A check was received from Miller-Nize Supply Co. for invoice of September 6. A shipment of lining was received from Arlene Supply Co., $135.40.

17 A check was made out to Garman Packing Co. for invoice of September 7. A credit memo for $35.20 was received from American Brake Co. in response to letter of September 10. A sale was made on credit to Seattle Heavy Hardware Co., gears $415.10.

18 A check was received from Coleman Auto Parts for invoice of Sept. 9, and a check was received from Seattle Heavy Hardware for invoice of Sept. 9. A check for $75 was made out to *Western Marine Journal* for an advertisement which appeared in the September 1 issue.

20 A shipment was received from Wirex Manufacturing Co., $1,125.10. A check for $106.90 was made out to Central Pacific Railway Co. for freight on this shipment. A note was issued to American Brake Co. for the balance owed to them on Sept. 20; this was a 60-day 6 per cent note payable. A credit memo for $25 was received from Wirex Manufacturing Co. for credit asked for on Sept. 12. An adding machine was purchased for $185 cash from Imperial Office Machine Co.

21 Checks were made out for salaries. The following sale was made on credit: Spokane Hardware Co., gears $311.10, lining $65.40, gaskets $50.10, total $426.60.

23 A shipment of gaskets was received from Garman Packing Co., $110.10. A sale was made on credit to Mars Machinery Co., gears $269.20, lining $48.90, gaskets $30.60, total $348.70. Mr. Stewart withdrew $75 cash. Sales supplies were purchased for $95.10 cash.

24 A sale was made on credit to Coleman Auto Parts, gears $515.10, lining $95.20, gaskets $40.15, total $650.45. A check for $25.80 was made out for repairs to truck. A check for $45 was made out to *Central Milling Magazine* for an advertisement which appeared in Sept. 15 issue.

26 A check was made out to Arlene Supply Co. for invoice of Sept. 16. The following sales were made on credit: Holman Lumber Co., gears $216.80; Cascade Auto Parts, gears $315.20, lining $41.60, gaskets $38.90, total $395.70. A check was made out for office supplies purchased for $33.40 cash.

27 A shipment of lining was received from Arlene Supply Co., $125.40. A sale was made on credit to Seattle Heavy Hardware, gears $435.20, lining $50.40, gaskets $25.90, total $511.50. A check was received from Seattle Heavy Hardware for invoice of Sept. 17.

28 A shipment was received from Wirex Manufacturing Co., $815.10. A shipment was received from Garman Packing Co., $132.15. Freight of $80.25 was paid to Central Pacific Ry. on shipment from Wirex Manufacturing Co.

30 Checks were made out for gasoline and oil used during September, $55.80, for telephone bill $16.20, for light bill $11.50, and for Mr. Russel's salary, $150. The installment payment was made on the truck.

The adjusting entries are to be made from the following information:

Inventories:
gears, $5,785.00
lining, $350.50
gaskets, $235.80
office supplies, $35.20
sales supplies, $55.00
The depreciation rates are the same as in previous months; depreciate office equipment on the balance at the beginning of the month.
Bad debts, 0.5 per cent of total sales
Insurance?
Interest expenses?
Interest revenue?
Salaries?
Traveling expenses for September, $259.60
Estimated taxes, $10

(a) You are required to enter and post the transactions for September.
(b) Make up schedules of accounts receivable and accounts payable.
(c) Make up a work sheet.
(d) Make up a balance sheet and statement of profit and loss.
(e) Make the adjusting and closing entries.
(f) Balance the assets and liability accounts.
(g) Take a postclosing trial balance.
(h) Make up a statement showing the actual expenses, the estimated expenses, and the differences.

PRACTICE SET 2

The Suburban Department Store

Four departments, voucher register, payrolls, sales tax, social security taxes, and cash reconciliation

The Suburban Department Store has four departments: Hardware, Shoes, Furniture and Men's Clothing.

The following were the balances of the asset and liability accounts and the proprietorship on January 1, 19xx:

Cash	$ 10,325.70
Inventories	
Hardware	18,940.00
Shoes	4,727.10
Clothing	12,945.20
Furniture	22,734.00
Sales Supplies	168.20
Office Supplies	48.50
Accounts Receivable	38,925.50
Reserve for Doubtful Accounts	1,645.50
Buildings	40,000.00
Reserve for Depreciation of Buildings	18,000.00
Land	14,000.00
Store Furniture and Fixtures	6,000.00
Reserve for Depreciation of Store Furniture and Fixtures	3,800.00
Office Equipment	2,360.00
Reserve for Depreciation of Office Equipment	1,150.20
Delivery Equipment	7,200.00
Reserve for Depreciation of Delivery Equipment	2,800.00
Sales Tax Payable	6,398.10
Old Age Pension Tax Payable	265.00
Unemployment Tax Payable, State	2,340.00
Unemployment Tax Payable, Federal	260.00
Vouchers Payable	15,832.90
Mortgage Payable (Matures, Jan. 1, 1965)	15,000.00
Accrued Interest Payable	600.00
Accrued Payroll	1,562.22
Suburban Department Store, Proprietorship	108,720.28

The unpaid vouchers on December 31 were:

Seattle Hardware	$3,446.40
Marshall Wells	2,380.00
Washington Furniture Co.	4,345.80
Best Shoe Co.	1,890.60
Tip Top Tailors	1,540.00
Textile Wholesale	2,230.10

The mortgage bears interest of 4 per cent a year, payable for each year ending December 31, on February 1 of the following year.

The following general ledger accounts are to be used; three accounts may be opened on each side of a ledger page:

Cash
Petty Cash
Accounts Receivable
Reserve for Doubtful Accounts
Inventory of Hardware
Inventory of Shoes
Inventory of Clothing
Inventory of Furniture
Sales Supplies
Office Supplies
Delivery Supplies
Fuel
Prepaid Insurance
Land
Buildings
Reserve for Depreciation of Buildings
Store Furniture and Fixtures
Reserve for Depreciation of Store Furniture and Fixtures
Office Equipment
Reserve for Depreciation of Office Equipment
Delivery Equipment
Reserve for Depreciation of Delivery Equipment
Accrued Property Taxes Payable
Accrued Interest Payable
Accrued Payroll
Sales Tax Payable
Old Age Pension Tax Payable
Unemployment Tax Payable, State
Unemployment Tax Payable, Federal
Notes Payable
Vouchers Payable
Reserve for Purchase Discounts Lost
Mortgage Payable
Suburban Department Store, Proprietorship
Sales of Hardware
Sales of Shoes
Sales of Clothing
Sales of Furniture
Sales Returns and Allowances, Hardware
Sales Returns and Allowances, Shoes
Sales Returns and Allowances, Clothing
Sales Returns and Allowances, Furniture
Hardware Purchases
Shoe Purchases
Clothing Purchases
Furniture Purchases
Purchase Returns and Allowances, Furniture
Hardware Salaries
Shoe Salaries
Clothing Salaries
Furniture Salaries
Sales Supplies Used
Advertising Expenses
Sundry Delivery Expenses
Delivery Salaries
Delivery Supplies Used
Repairs to Delivery Equipment
Store Salaries
Store Repairs and Maintenance
Office and Accounting Salaries
Office Supplies Used
General Executive Expenses
Insurance Expense
Heat, Light and Power
Property Taxes
Sundry General Expenses
Depreciation of Buildings
Depreciation of Store Furniture and Fixtures
Depreciation of Office Equipment
Depreciation of Delivery Equipment
Social Security Taxes
Bad Debts
Purchase Discounts Lost
Interest Expense
Bad Debts Recovered
Loss on Delivery Truck
Profit and Loss Summary

The following books are to be used:

A general journal made up of 6 pages of 2-column journal paper.

A sales journal made up of 1 sheet with space for the date, explanation, accounts receivable, hardware sales, shoe sales, clothing sales, furniture sales, and sales tax payable.

A voucher register made up of 2 sheets with space for the date, payee, voucher number, paid, vouchers payable, old age pension tax payable, hardware pur-

chases, shoe purchases, clothing purchases, furniture purchases, hardware salaries, shoe salaries, clothing salaries, furniture salaries, office salaries, delivery salaries, store salaries, and sundries.

A cash receipts journal made up of 1 sheet of paper with space for the date, account name, explanation, reference, general, accounts receivable, cash, and deposits.

A cash disbursements journal made up of 1 sheet of paper with space for the date, payee, voucher number, check number, and amount.

Periodically, the sales on credit are entered in the sales journal; the debits to the customers' accounts are not entered in this problem; it is assumed that the company has an accounts receivable ledger bookkeeper who is making these entries.

The balances of the accounts on January 1 are to be entered in the ledger accounts.

Each voucher unpaid on January 1 is to be listed in the voucher register and the total ruled off.

The following adjusting entry made on December 31 should be reversed:

Hardware Salaries	318.00	
Furniture Salaries	222.00	
Clothing Salaries	294.00	
Shoe Salaries	120.00	
Office Salaries	240.00	
Delivery Salaries	204.00	
Store Salaries	180.00	
Accrued Payroll		1,562.22
Old Age Pension Taxes Payable		15.78
To record accrued payroll		

All purchases and sales are on credit unless otherwise stated.

Discount of 1 per cent is to be deducted from each invoice for the purchase of merchandise and the net amount entered in the voucher register; the discount is earned if full payment is made within 10 days from date of receipt of the merchandise; it is assumed that the invoice is entered on the date the merchandise is received.

Vouchers and checks are to be numbered consecutively, starting each with number 1.

The following are the transactions for January.

Jan. 2 The following is a summary of the payroll for the two weeks ending Jan. 2; you are to enter a voucher and a check, and record the old age pension tax:

DEBITS FOR SALARIES

Hardware Salaries	*Shoe Salaries*	*Clothing Salaries*	*Furniture Salaries*	*Office and Acctg. Sal.*	*Delivery Salaries*	*Store Sal.*
$390	$135	$340	$270	$280	$235	$210

3 Insurance for 1 year was purchased from the Western Insurance Co. for $317, cash.

5 Vouchers were made out and entered for the following purchase invoices:

	Amount of Invoice	*Discount*	*Net Amount*
Best Shoe Co., shoes	$1,250.00	$12.50	$1,237.50
Washington Furniture Co.	2,230.75	22.31	2,208.44
Marshall Wells, hardware	2,680.00	26.80	2,653.20
Textile Wholesale, clothing	2,100.70	21.01	2,079.69

8 Cash sales: hardware $1,660.20, shoes $825.40, clothing $1,516.90, furniture $549.70, sales tax $136.57, total $4,688.77.
A deposit of $4,688.77 was made in the bank.
Sales on credit: hardware $2,440.30, shoes $796.40, clothing $1,918.65, furniture $2,915.80, sales tax $242.13, total $8,313.28.
Sales supplies purchased for $250.00 cash from Wilson Forney Co.
Office supplies purchased for $125 cash from Harvey Bros.
Delivery supplies purchased for $275 cash from Standard Oil Co.
9 Fuel was purchased for $165 cash from Holmes Fuel Co.
A petty cash fund of $75 was established.
Cash of $6,540.75 was collected on the accounts receivable.
The exact amounts given below were paid on vouchers from the preceding year:

Best Shoe Co.	$1,890.60
Washington Furniture Co.	4,345.80
Marshall Wells	2,380.00
Seattle Hardware	3,446.40
Textile Wholesale	2,230.10
Tip Top Tailors	1,540.00

Defective furniture purchased on Jan. 5 on the invoice for $2,230.75 was returned to the Washington Furniture Co. This furniture was invoiced at $200.
The account receivable of Mr. D. V. Stevens for $65.80 was written off as uncollectible.
11 Vouchers were made out and entered for the following invoices:

	Amount	*Discount*	*Net Amount*
Best Shoe Co.	$1,105.20	$11.05	$1,094.15
Washington Furniture Co.	2,710.15	27.10	2,683.05
Marshall Wells	1,896.40	18.96	1,877.44
Seattle Hardware	2,100.60	21.01	2,079.59
Textile Wholesale	401.90	4.02	397.88
Tip Top Tailors	1,216.20	12.16	1,204.04

15 Cash sales: hardware $1, 425.40, shoes $622.40, clothing $1,325.80, furniture $429.60, sales tax $114.10, total $3,917.30.
A deposit of $10,458.05 was made in the bank.
Sales on credit: hardware $2,160.10, shoes $820.30, clothing $1,795.35, furniture $2,364.15, sales tax $214.20, total $7,354.10.
Cash of $14,825.70 was collected on the accounts receivable; this was deposited.
Sales supplies were purchased on credit for $65.90 from Homan Sales Co.
Vouchers for the following invoices were paid:

Best Shoe Co., $1,250.00, dated Jan. 5, net amount $1,237.50.
Textile Wholesale, $2,100.70, dated Jan. 5, net amount $2,079.69.

A partial payment of $500 was made on voucher of Jan. 5 to Marshall Wells.
Sales returns: hardware $50.25, shoes $65.20, clothing $85.90, furniture $250.40, sales tax $13.55, total $465.30, for which credit was granted.
16 An adding machine was purchased for the office from The Office Equipment Co. for $255.75, cash.
Made out a voucher and paid *City Star* $195.50 for January advertising.
R. E. Humes, the general manager gave the bookkeeper his personal check for $75 and requested that a company check be given him for this amount; this was done.
A voucher and check were made out to the State for sales tax of $6,398.10,

A voucher and check were made out to record the payroll for the two weeks ending Jan. 16, the debits for which were:

Hardware Salaries	*Shoe Salaries*	*Clothing Salaries*	*Furniture Salaries*	*Office and Acctg. Sal.*	*Delivery Salaries*	*Store Sal.*
$370	$135	$340	$270	$280	$235	$210

Accounts receivable totaling $234.15 were written off as uncollectible.

Cash of $78.65 was collected from customers whose accounts had been written off as bad.

18 Vouchers were made out and entered for the following invoices:

	Amount of Invoice	*Discount*	*Net Amount*
Best Shoe Co.	$ 785.90	$ 7.86	$ 778.04
Marshall Wells	2,100.30	21.00	2,079.30
Washington Furniture Co.	2,985.30	29.85	2,955.45
Seattle Hardware	2,264.40	22.64	2,241.76
Textile Wholesale	1,305.10	13.05	1,292.05
Tip Top Tailors	1,438.70	14.39	1,424.31

19 The vouchers for the following invoices were paid:

Seattle Hardware, $2,100.60, Jan. 11, net amount $2,079.59.

Marshall Wells, $2,680.00, dated Jan. 5, net amount $2,653.20; see partial payment made on Jan. 15.

Washington Furniture, $2,230.75, dated Jan. 5, net amount $2,208.44; see return on Jan. 9.

Best Shoe Co. $1,105.20, dated Jan. 11, net amount $1,094.15.

Tip Top Tailors, $1,216.20, dated Jan. 11, $1,204.04.

Textile Wholesale, $401.90, Jan. 11, net amount $397.88.

24 Cash sales: hardware $1,232.45, shoes $426.90, clothing $1,140.20, furniture $425.10, sales tax $96.74, total $3,321.39.

A deposit of $3,475.04 was made.

Sales on credit: hardware $1,922.15, shoes $750.00, clothing $1,509.35, furniture $1,840.20, sales tax $180.65, total $6,202.35.

A partial payment of $700 cash was made to Washington Furniture Co. on their invoice of Jan. 11 for $2,710.15.

A voucher was made out to A. B. Green for $85 for repairs made to the roof which had been leaking.

Made out voucher and check to the State for unemployment taxes of $2,297.39, and vouchers and checks to the collector of internal revenue for old age pension tax of $233.44, and unemployment tax of $255.27.

Cash of $11,657.85 was collected on accounts receivable.

A deposit of $11,657.85 was made in the bank.

Sales supplies were purchased on credit from Black and Webber for $65.30.

26 Vouchers were made out and entered for the following invoices:

	Amount	*Discount*	*Net Amount*
Best Shoe Co.	$ 954.20	$ 9.54	$ 944.66
Marshall Wells	1,756.40	17.56	1,738.84
Washington Furniture Co.	2,330.60	23.31	2,307.29
Seattle Hardware	1,695.10	16.95	1,678.15
Textile Wholesale	2,135.55	21.36	2,114.19
Tip Top Tailors	1,365.10	13.65	1,351.45

A 60-day noninterest-bearing note payable was issued to Marshall Wells for their invoice for $1,896.40 of Jan. 16; the discount was lost.

30 Cash sales: hardware $1,360.40, shoes $675.40, clothing $1,245.20, furniture $515.10, sales tax $113.88, total $3,909.98.

Sales on credit: hardware $2,175.10, shoes $875.20, clothing $1,808.90, furniture $2,260.40, sales tax $213.59, total $7,333.19.

A voucher and check were made out to General Service Co. for the cost of replacing the crankshaft on a delivery truck, $68.90.

Sales supplies were purchased on credit from Western Paper Co. for $165.80.

A voucher and check were made out to Wm. Wright for the cost of an addition to the building, $2,500.

Cash of $9,456.45 was collected on the accounts receivable.

A partial payment of $600 was made to Seattle Hardware on voucher of Jan. 18 for the invoice for $2,264.40.

The following is the summary of the payroll debits for the two weeks ending January 30; make out voucher and check:

Hardware Salaries	*Shoe Salaries*	*Clothing Salaries*	*Furniture Salaries*	*Office and Acctg. Sal.*	*Delivery Salaries*	*Store Sal.*
$370	$135	$340	$270	$280	$235	$230

Accounts receivable of $89.15 were written off as uncollectible.

Cash of $45.85 was collected on accounts which had been written off as bad.

A deposit of $13,412.28 was made in the bank.

31 A voucher and checks were made out for the following salaries less the old age pension taxes:

R. E. Humes, general manager, $800
A. E. Lowe, accountant, $300
A. T. Gibson, hardware dept. manager, $250
A. K. Hummer, clothing dept. manager, $250
W. S. Laurie, furniture dept. manager, $250
J. H. Trehune, shoe dept. manager, $175

Vouchers and checks were made out to City Utilities for the light bill of $135.60.

A voucher and check were made out for $45.60 to replenish the petty cash fund; the expenditures were for stamps and postage $35.60 (office supplies), delivery expenses $5, and sundry office expenses $5.

Bank charges of $5.75 for January were recorded.

A delivery truck carried on the books at $1,000 with credits totaling $650 to the reserve for depreciation up to Dec. 31, was traded in on a new truck for $1,200; the trade-in allowance was $200, and a voucher and check were made out to Humbert Motors for the balance.

Adjusting information:

Depreciation at the following rates was computed on the balances of the accounts at the beginning of January:

Buildings, 4 per cent per year.
Store furniture and fixtures, 10 per cent per year.
Office equipment, 10 per cent per year.
Delivery equipment, 33⅓ per cent per year; from the depreciation for January deduct the depreciation recorded when the truck was traded in.

Bad debts, ½ of 1 per cent of total sales.
Accrued payroll, use a 6-day week and accrue 1 day, using the January 30 payroll.
Record employer's portion of the old age pension tax.
Record unemployment tax, 2.7 per cent to the State.
0.3 per cent to the Federal government.
Record accrued interest, unexpired insurance for 1 month, and property taxes of $75.
Record the discounts lost on unpaid vouchers.

Inventories:
- Hardware, $21,715.40
- Clothing, $14,600.50
- Shoes, $4,115.60
- Furniture, $25,290.90
- Sales supplies, $358.25
- Office supplies, $30
- Fuel, $55.60
- Delivery supplies, $88

Required:

(a) Enter the transactions for the month; make up a schedule of the unpaid vouchers and compare it with the balance of the account Vouchers Payable; make up a work sheet; finally make the adjusting and closing entries.

(b) Make up a balance sheet.

(c) Prepare statements to show the allocation of the fixed direct expenses and the indirect expenses. The advertising expenses are allocated on the basis of an analysis of the advertisements which reveals that 15 per cent should be distributed to the hardware department, 30 per cent to shoes, 30 per cent to clothing and 25 per cent to furniture.

An analysis of the delivery tickets for several months revealed that 30 per cent of the deliveries were hardware, 10 per cent shoes, 40 per cent furniture, and 20 per cent clothing. All delivery expenses are to be distributed in these percentages.

The requisitions for supplies were summarized and it was found that the supplies were used as follows: $115.80 by the hardware department, $65.70 by the shoe department, $112.60 by the clothing department, and $62.85 by the furniture department.

Insurance expense is allocated as follows: 50 per cent of the insurance expense is allocated in proportion to the floor space used by each department, and the remaining 50 per cent is allocated in proportion to the inventories of merchandise on hand on January 31. Disregard the fact that you are allocating none of this expense to the office and delivery departments.

The property taxes are allocated on the same basis as the insurance.

The following expenses are allocated on the basis of floor space used: depreciation of buildings; heat, light and power; building repairs and maintenance; and store expenses.

Office, accounting, and general executive expenses are allocated in proportion to gross sales.

The depreciation of store furniture and fixtures is allocated on the basis of the cost of the equipment used by each department; these percentages were found to be 30 per cent to both the hardware and clothing departments, and 20 per cent to both the furniture and shoe departments.

Interest, bad debts, purchase discounts lost, and loss on delivery truck are not allocated to departments.

The following is the amount of floor space used by each of the departments:

Hardware,	10,000	square feet
Shoes,	5,000	" "
Clothing,	7,000	" "
Furniture,	8,000	" "

The balance of the Social Security Tax account is distributed to the four selling departments on the basis of the salaries for the month. (This distribution is not absolutely accurate but will do for the purposes of this problem.)

Prepare a statement of profit and loss showing profits by departments.

(d) On the basis of the above profit and loss statement do you think any of the departments should be eliminated? Explain.

(e) Reconcile the bank balance with the balance of the Cash account. The following is the bank statement for the month of January:

First National Bank

Account: Suburban Department Store

Date	Checks				Deposits	Balance
Jan. 1						$ 5,612.30
x	7.90	250.00		125.00	5,114.50	
xx	317.00	125.30	75.00	10.80	4,688.77	
xx	1,890.60	275.00		1,540.00	10,458.05	
xx	4,345.80	2,230.10		2,079.69	14,825.70	
xx	1,237.50	1,841.40	68.90		3,475.04	
xx	397.88	1,841.40		1,821.60	11,657.85	
xx	2,079.59	75.00		195.50	13,412.28	
xx	1,204.04	1,094.15		5.75		
			Balance Jan. 31			$44,109.59

The bank reconciliation on December 31, 19xx was as follows:

Suburban Department Store

Bank Reconciliation
December 31, 19xx

Bank balance, December 31, 19xx.		$ 5,612.30
Deduct:		
Checks outstanding		
	$125.30	
	115.00	
	142.10	
	7.90	
	10.80	401.10
		5,211.20
Add:		
Deposit not recorded by bank		5,114.50
Balance of ledger account Cash		$10,325.70

PRACTICE SET 3

The Panton Manufacturing Co.

Noncost manufacturing problem with voucher register, payroll accounting, workmen's compensation taxes, social security taxes, and bank reconciliation

The Panton Manufacturing Co. operates a sawmill which produces approximately 100,000 board feet of lumber during each 8-hour shift. Approximately 100 men are employed. The following was the balance sheet of this company on August 1, 19xx:

Assets

Cash		$ 8,600.00
Accounts Receivable	$ 55,540.10	
Less: Reserve for Doubtful Accounts	3,000.00	52,540.10
Inventory of Logs (700,000 feet)		10,200.00
Inventory of Lumber in Process (100,000 board feet)		2,000.00
Inventory of Finished Lumber (1,000,000 board feet)		17,000.00
Prepaid Insurance on Plant and Equipment		386.50
Prepaid Insurance on Lumber		185.60
Office Supplies		65.75
Factory Supplies		2,376.80
Buildings and Machinery	120,000.00	
Less: Reserve for Depreciation	72,000.00	48,000.00
Yard Equipment	9,700.00	
Less: Reserve for Depreciation	5,200.00	4,500.00
Office Equipment	2,600.00	
Less: Reserve for Depreciation	900.00	1,700.00
Salesmen's Automobiles	2,700.00	
Less: Reserve for Depreciation	1,200.00	1,500.00
Total Assets		$149,054.75

Liabilities and Proprietorship

Vouchers Payable	10,414.45
Accrued Interest Payable	70.33
Accrued Payroll Payable	3,536.97
Old Age Pension Taxes Payable	288.73
Accrued Workmen's Compensation Taxes Payable	1,850.00
Unemployment Insurance Taxes Payable, State	2,646.58
Unemployment Insurance Taxes Payable, Federal	294.07
Notes Payable	9,000.00
Mortgage Payable	35,000.00
Capital Stock (500 shares)	50,000.00
Surplus	35,953.62
	$149,054.75

Interest at 6 per cent a year on mortgage is payable on July 31 of each year.

The following are the schedules of the accounts receivable, notes payable, and vouchers payable:

Accounts Receivable:

Arnold Construction Co.	$ 7,892.10
Colonial Lumber Co.	5,250.15
Hinton Shipyards	4,785.25
Kraft and Sons	3,278.40
Leland Construction Co.	6,300.50
Neylon Retail Stores	5,265.70
Parkhurst Bros.	2,982.30
U. S. Engineering Dept.	6,275.40
U. S. Exporting Co.	7,292.40
United Contractors	6,217.90
	$55,540.10

Notes Payable:

$5,000 note dated June 1, to First National Bank, due in 3 months, interest 4 per cent.
$3,000 note to E. S. Hill, dated June 1, due December 31, interest 5 per cent.
$1,000 note to John Harper, due August 11.

The following is an analysis of the accrued interest:

On note to First National Bank, $33.33 (2 months' interest).
On note to E. S. Hill, $25 (2 months' interest).
On note to John Harper, $12.

Vouchers payable on August 1:

No.	*To Whom*	*Date*	*Amount*
186	A. Bilton	July 15	$ 6,350.00
197	Middleton Mill Supply Co.	July 27	450.00
206	A. B. Wolf and Co.	July 28	75.60
211	Simons Saw Co.	July 28	126.80
215	Nestor Manufacturing Co.	July 30	25.20
225	T. B. Friedman	July 30	96.25
238	Delco Saw Co.	July 31	178.30
240	Truman Contractors	July 31	1,270.10
248	A. B. Danz Machinery Co.	July 31	1,842.20
			$10,414.45

List these vouchers in the Vouchers Payable column of the voucher register and rule off the total.

The mortage matures on January 1, 19xx. It bears interest at the rate of 6 per cent per year.

The Panton Manufacturing Company purchases its logs on contract from A. Bilton. The contract provides for increased prices whenever there is a general increase in wages.

The following books of account are used:

A general journal.

Sales journal with columns for Accounts Receivable, Sales of Lumber, Sales of Sawdust, Sales of Wood.

Cash receipts journal with columns for General, Accounts Receivable, Sales Discounts, Cash, and Deposits.

Cash disbursements journal with columns for Check Number, Voucher Number, Amount.

Voucher register with the following columns:
  Voucher Number, Paid, Vouchers Payable, Old Age Pension Taxes Payable, Log Purchases, Factory Supplies, Direct Labor, Sundry Indirect Labor, Maintenance Labor, Factory Supervision, Shipping Dept. Labor, and Sundries.
A general ledger: 12 sheets of ledger paper, 3 accounts to a page.
An accounts receivable ledger: 3 sheets of ledger paper, 3 accounts to a page.

The following accounts should be opened in the accounts receivable ledger—three accounts may be opened on each side of a sheet of ledger paper:

Alaska Trading Co.
Arnold Construction Co.
Colonial Lumber Co.
Hinton Shipyards
Kraft and Sons
Leland Construction Co.
Neylon Retail Stores
Northwest Fuel Co.
Parkhurst Bros.
Pearson Fuel Co.
U.S. Engineering Dept.
U.S. Exporting Co.
United Contractors

Discounts of 2 per cent are granted to all customers, except a few to whom the sales are made net, who make full payment in cash within 10 days from the date of the invoice.

You are to number each voucher for August starting with voucher number 252 and numbering the vouchers consecutively. The first check written in August is number 226; checks are numbered consecutively.

The liability, accrued payroll, had been recorded on July 31 by a credit of $3,536.97 to Accrued Payroll Payable, a credit of $35.73 to Old Age Pension Taxes Payable, and the following debits:

Direct Labor	$2,503.68	
Sundry Indirect Labor	246.12	
Maintenance Labor (Factory)	249.72	
Supervision	480.00	(All factory cost)
Shipping Dept. Labor	93.18	(A selling expense)
	$3,572.70	

The Panton Manufacturing Company produces its own power from waste wood. The cost is so slight that it is not segregated from other factory costs.

The employer's liability for pensions and unemployment insurance had been recorded on July 31.

You will need the following general ledger accounts, three of which may be opened on each side of a sheet of ledger paper:

Cash
Petty Cash
Accounts Receivable
Reserve for Doubtful Accounts
Inventory of Logs
Inventory of Lumber in Process
Inventory of Lumber
Factory Supplies
Office Supplies
Prepaid Insurance on Plant and Machinery
Prepaid Insurance on Finished Lumber
Buildings and Machinery
Reserve for Depreciation of Buildings and Machinery
Yard Equipment
Reserve for Depreciation of Yard Equipment
Office Equipment
Reserve for Depreciation of Office Equipment
Salesmen's Automobiles

Reserve for Depreciation of Salesmen's Automobiles
Vouchers Payable
Notes Payable
Accrued Payroll Payable
Accrued Interest Payable
Accrued Property Taxes Payable
Accrued Workmen's Compensation Taxes Payable
Old Age Pension Taxes Payable
Unemployment Taxes Payable, State
Unemployment Taxes Payable, Federal
Mortgage Payable
Capital Stock
Surplus
Profit and Loss Summary
Sales of Lumber
Sales Returns and Allowances, Lumber
Sales of Wood
Sales of Sawdust
Sales Discounts
Manufacturing
Log Purchases
Direct Labor
Payroll Taxes, Direct Labor
Sundry Indirect Labor
Maintenance Labor
Payroll Taxes, Indirect Labor
Maintenance Supplies
Factory Supervision
Property Taxes, Manufacturing
Insurance, Manufacturing
Factory Supplies Used
Depreciation of Factory Buildings and Machinery
Depreciation of Yard Equipment
Social Security Taxes
Commission Expense
Shipping Dept. Labor
Sundry Shipping Dept. Expenses
Depreciation, Shipping Dept.
Sales Salaries
Advertising Expense
Sales Supplies Used
Sundry Selling Expense
Payroll Taxes, Shipping and Selling
Depreciation of Salesmen's Automobiles
Sundry Selling Expenses
Office Salaries
Officers' Salaries
Office Supplies Used
Depreciation of Office Equipment
Payroll Taxes, Office
Sundry Office Expenses
Bad Debts
Interest Expenses
Loss on Automobile

Enter the balances of the balance sheet accounts on page 1 in these ledger accounts. Enter the balances of the customers' accounts in the accounts receivable ledger.

Transactions for August:

Aug. 2 Make the readjusting entries.[2] Record voucher and check for the payroll, deducting pension tax: direct labor $2,906.18, sundry indirect labor $276.10, maintenance labor $288.60, supervision $560.00, shipping department labor $113.18.[1] Establish a petty cash fund of $125.00. Enter voucher to Hilon Manufacturing Co. for the purchase of a straddle-truck for yard, $785.50.

3 Paid voucher No. 186 to A. Bilton and voucher No. 215 to Nestor Manufacturing Co. Received a check from Hinton Shipyards for July 31 balance less 2 per cent discount. Sold wood to Northwest Fuel Co. $95.40, terms 2/10, n/30. Entered voucher to Milner Wholesale Hardware Co. for 1 dozen WB axes, $48.15 (factory supplies).

4 Sold 200,000 bd. ft. of lumber to Parkhurst Bros., price $26 per M, terms 2/10, n/30. Paid voucher No. 206 to A. B. Wolf and Co. Received checks from Arnold Construction Co. and Colonial Lumber Co. for balances of July 31 less 2 per cent discount. Sold sawdust to Pearson Fuel Co., $115.80, terms 2/10, n/30. Cash of $17,568.95 was deposited.

6 A salesman's automobile was traded in on a new one purchased from Newman Motors for $1,150; the old automobile had cost $950, and the credits to the Reserve for Depreciation of Salesmen's Automobiles to August 1 were $600; disregard the

[1] In practice employees would not be paid up to date.

[2] Payroll and interest only.

August depreciation; a trade-in allowance of $300 was received and cash (a check) of $850 was paid.

9 Enter voucher and check for the payroll, deducting the employees' pension tax: direct labor $2,550.50, sundry indirect labor $255.00, maintenance labor $240, supervision $480, shipping department labor $79.90. Paid voucher No. 197 to Middleton Mill Supply Co. Received checks from Kraft and Sons, and Leland Construction Co. for balances on July 31 less 2 per cent. Sold wood to Northwest Fuel Co. for $112.40, terms 2/10, n/30. Cash of $9,387.32 was deposited.

10 Entered voucher to A. Bilton for 500,000 feet of logs received during the first week of August, $8,500. Paid voucher No. 211 to Simons Saw Co., and voucher No. 225 to T. B. Friedman. Entered voucher to General Cordage Co., $116.70 for factory supplies. Sold sawdust to Pearson Fuel Co. $142.70, terms 2/10, n/30. Made out voucher to Milner Hardware Co. for nails purchased for $88.20.

11 Entered voucher to Hardley Tool Co. for planer blades for stock, $28.60. Made out a voucher and check to John Harper in payment of his note for $1,000 plus interest of $15. Paid vouchers No. 238, No. 240.

12 Entered voucher to Simons Saw Co. for saws purchased for $175. Sold 300,000 bd. ft. of lumber to Leland Construction Co., price $26 per M, terms 2/10, n/30. Returned cord purchased for $33.10 on Aug. 10 from General Cordage Co. [make entry].

13 Entered voucher to Harton Steel Co. for wire rope purchased for $96.70. Sold 100,000 bd. ft. of odd lengths of lumber to Neylon Retail Stores, price $22 per M net. Sold wood to Northwest Fuel Co., $125.70, terms 2/10, n/30. Entered voucher for the purchase of 2 dozen shovels from Martin Wholesale Hardware Co., $72 on credit.

14 Entered voucher to A. Bilton for 300,000 feet of logs, $5,100. Paid A. B. Danz & Co., $842.20 on voucher No. 248, and gave them a 60-day 6 per cent note for $1,000. Received checks from Northwest Fuel Co. for invoice of Aug. 3 and from Pearson Fuel Co. for invoice of August 4.

16 Enter voucher and check to record the payroll, making the deduction for employees' pension tax: direct labor $2,590.75, sundry indirect labor $303.35, maintenance labor $291.10, supervision $450, shipping department labor $88.60. Sold 150,000 bd. ft. of odd lengths of lumber to Colonial Lumber Co., price $20 per M, net. Returned 1 dozen shovels to Martin Wholesale Hardware Co.; these shovels were purchased on Aug. 13 for $36. Made out a voucher for salaries of $257.40 and wrote checks to A. H. Davis and B. E. Hitt, for salaries of $50 and $75, respectively, both office salaries, and checks for sales salaries of $75 to A. Holmes and $60 to E. S. Shelly.

17 Entered voucher to Western Fire Prevention Co. for contract price of installing a sprinkler system in the mill, $2,500. Sold 400,000 bd. ft. of lumber through U. S. Exporting Co., price $25 per M; U. S. Exporting Co. will collect the cash and will deduct a commission of 8 per cent. Received a check from Neylon Retail Stores for balance of July 31. Sold sawdust to Pearson Fuel Co., $172.40, 2/10, n/30. Received check from Northwest Fuel Co. for invoice of Aug. 9. Cash of $5,584.73 was deposited.

18 Entered voucher to Nestor Manufacturing Co. for $126.40 for belting purchased for stock. Sold 250,000 bd. ft. of lumber to Alaska Trading Co., price $24 per M, net. Neylon Retail Stores returned 10,000 bd. ft. of lumber purchased on Aug. 13; granted them full credit. Received check from U. S. Exporting Co. $7,292.40. Received check from Pearson Fuel Co. for invoice of Aug. 10. Paid Western Fire Prevention Co. $500 on voucher of Aug. 17.

19 Entered voucher to A. Bilton for 450,000 feet of logs, $7,650. Entered voucher to Balsom Paper Co., $48.60 for paper towels for factory.

20 Sold 200,000 bd. ft. of lumber to Hinton Shipbuilding Co., price $25 per M., terms 2/10, n/30. Paid voucher of Aug. 10, to A. Bilton. Sold wood to Northwest Fuel Co., $142.60, terms 2/10, n/30.

21 Sold 100,000 bd. ft. of lumber to Neylon Retail Stores, price $22 per M, net. Received a check from Leland Contracting Co. for invoice of Aug. 12. Cash of $15,076.25 was deposited.

23 Enter voucher and check for payroll, deducting the pension tax: direct labor $2,463.60, sundry indirect labor $237.25, maintenance labor $288.90, supervision $400, shipping department labor $97.25. Sold 100,000 bd. ft. of lumber to Kraft and Sons, price $26 per M, terms 2/10, n/30.

24 Entered voucher for $8,925 to A. Bilton for 525,000 feet of logs received. Paid voucher of August 14 to A. Bilton.

25 Sold 150,000 bd. ft. of lumber to Colonial Lumber Co., price $20 per M, net.

26 Sold sawdust to Pearson Fuel Co., $132.70, terms 2/10, n/30.

27 Paid Western Fire Prevention Co. $1,000 on voucher of Aug. 17 and gave them two noninterest-bearing notes for $500 each, one maturing Oct. 1 and the other Nov. 1. Sold 200,000 bd. ft. of lumber through U. S. Exporting Co., price $25 per M, less 8 per cent commission. Received a check from Pearson Fuel Co. for invoice of August 17.

28 Sold 50,000 bd. ft. of lumber to Parkhurst Brothers, price $26 per M, terms 2/10, n/30. Received a check from Northwest Fuel Co. for invoice of Aug. 20. Entered voucher for $150 to *Builders Journal Inc.* for August advertising.

30 Enter voucher and check for payroll, deducting the pension tax; direct labor $2,546.20, sundry indirect labor $283.25, maintenance labor $263.05, supervision $495, shipping department labor $88.30. Received a check from Hinton Shipyards for invoice of Aug. 20.

31 Sold 200,000 bd. ft. of lumber to U. S. Engineering Dept., price $23 per M. Received check from Kraft and Sons for invoice of Aug. 23. Sold sawdust to Pearson Fuel Co. $126.70, terms 2/10, n/30. Sold wood to Northwest Fuel Co., $170.80, terms 2/10, n/30. Entered voucher for $232.10 to General Oil Co. [debit Factory Supplies]. Entered voucher and made out salary checks for A. H. Davis, B. E. Hitt, A. Holmes, and E. S. Shelly—same amounts as on Aug. 16, and for $600 salary of A. B. Panton, amount of voucher, $857.40. The petty cash expenditures for the month were $12.50 for stamps, $26.80 for sundry office expenses, and $35.60 for sundry selling expenses; replenish the fund. Cash of $7,756.70 was deposited. Made out voucher and check to State, $1,850, for workmen's compensation taxes unpaid on July 31.

INFORMATION FOR ADJUSTING ENTRIES

Accrued wages, ⅓ of payroll recorded on Aug. 30

Unemployment insurance: On salaries and wages except on Panton's salary: 2.7 per cent of payroll to state, 0.3 per cent of payroll to federal government

Old age pensions: On salaries and wages except Panton's salary

Inventory of logs 375,000 feet, log scale, $6,375.00

Lumber in process, 80,000 bd. ft., ½ completed, $1,659.42

Finished lumber 730,000 bd. ft., $18,359.50

Factory supplies on hand, $1,125.25

Factory supplies used:

- 60% factory [some of this 60% would ordinarily be recorded as an inventory of tools, however we shall disregard this inventory]
- 15% to maintenance
- 15% shipping
- 10% selling

Office supplies on hand, $26.70

Prepaid insurance on plant and equipment, $175.40; expired insurance:

- 80% factory
- 10% shipping
- 10% office

Prepaid insurance on finished lumber $105.60

Depreciation: Buildings and equipment, 20-year life, 80% factory, 10% shipping, 10% office. Yard equipment, 20 per cent per year [manufacturing cost]. Depreciate on balances of accounts on August 31

Salesmen's automobiles, 4-year life
Office equipment, 10-year life; disregard scrap or trade-in values
Accrued property taxes $75.00—distributed on same basis as insurance
Accrued interest on notes and mortgage
Bad debts 0.5 per cent of sales
Workmen's compensation taxes are to be accrued at the following rates: 4 per cent of factory wages, 0.75 per cent of sales and shipping salaries, and 0.5 per cent of office salaries [none recorded on A. B. Panton's salary]. Make debits to payroll taxes accounts.
The balance of the account Social Security Taxes is distributed in proportion to the payrolls to Payroll Taxes, Direct Labor; Payroll Taxes, Indirect Labor; Payroll Taxes, Selling and Shipping; and Payroll Taxes, Office.

Required

(a) Make all entries; using a work sheet with columns for Manufacturing. Make the adjusting and closing entries.
(b) Make up a balance sheet, statement of profit and loss, and a statement of manufacturing cost.
(c) Make up a unit cost statement.
Inventory of lumber in process on Aug. 1 was made up of materials $1,200, labor $400, and indirect manufacturing costs of $400, total $2,000. The inventory of lumber in process on Aug. 1 was considered to be ¾ completed, and that on Aug. 31 ½ completed.
(d) Make up a bank reconciliation using the following data:

PANTON MANUFACTURING CO.

Bank Reconciliation
July 31, 19xx

Balance of ledger account, Cash		$8,600.00
Add:		
Checks outstanding:	$326.80	
	115.00	
	600.00	
	243.00	1,284.80
Bank balance, July 31		$9,884.80

National Bank
Account of: Panton Manufacturing Co.

Date	Checks		Deposits	Balance
Aug. 1				$ 9,884.80
xx	326.80			xxxx
xx	600.00	4,102.62	17,568.95	xxxx
xx		6,350.00		xxxx
xx	125.00	850.00	9,387.32	xxxx
xx		3,569.35		xxxx
xx	25.20	1,015.00	5,584.73	xxxx
xx		1,270.10		xxxx
xx	96.25	3,686.56		xxxx
xx	178.30	8,500.00	15,076.25	xxxx
xx	842.20	3,452.13		xxxx
xx	1,850.00	3,639.04		xxxx
Aug. 31				$17,023.50

(e) The Panton Manufacturing Co. was considering the construction of a lath mill which would use worthless waste lumber that was not being sold as wood. Explain how you would determine the costs of manufacturing laths.

(f) Logs go through the sawmill where lumber and timber of different grades are obtained and waste lumber and sawdust are produced. Lumber of the following grades is obtained: No. 1 common, No. 2 common, and No. 3 common. Some lumber is sold green, that is, without going through the dry kiln. The better grades are dried and put through the planing mill to be manufactured into flooring, siding, and ceiling. Because of his location Mr. Panton has some control over his prices; how should he determine the prices he should charge for the different grades of lumber?

(g) Prove the accuracy of the number of board feet in the final inventories of logs, lumber in process, and finished lumber.

PRACTICE SET 4

The Brinton Manufacturing Co.

Job lot cost accounting problem with voucher register, payrolls, social security taxes, workmen's compensation taxes, and bank reconciliation

Open the following ledger accounts, three to a page, and enter the balances given on page 669:

Cash
Petty Cash
Accounts Receivable
Reserve for Doubtful Accounts
Finished Goods, Coveralls
Finished Goods, Jackets
Goods in Process
Raw Materials
Raw Materials Returned
Factory Supplies
Sales Supplies
Office Supplies
Delivery Supplies
Prepaid Insurance
Land
Buildings
Reserve for Depreciation of Buildings
Machinery and Equipment
Reserve for Depreciation of Machinery and Equipment
Tools
Office Equipment
Reserve for Depreciation of Office Equipment
Delivery Equipment
Reserve for Depreciation of Delivery Equipment
Accounts Payable
Accrued Payroll
Notes Payable
Accrued Workmen's Compensation Taxes Payable
Old Age Pension Taxes Payable
Unemployment Taxes Payable, State
Unemployment Taxes Payable, Federal
Mortgage Payable
R. W. Brinton, Proprietorship
Sales of Coveralls
Sales of Jackets
Sales Returns and Allowances, Coveralls
Sales Returns and Allowances, Jackets
Cost of Coveralls Sold
Cost of Jackets Sold
Direct Labor
Indirect Manufacturing Costs
Indirect Labor
Supervision
Factory Supplies Used
Heat, Light, and Power—Factory
Factory Repairs and Maintenance
Property Taxes, Factory
Payroll Taxes, Factory
Property Insurance, Factory
Depreciation of Factory Buildings
Depreciation of Machinery and Equipment
Depreciation of Tools
Sales Salaries
Sales Supplies Used
Advertising
Delivery Salaries
Repairs to Delivery Equipment
Delivery Supplies Used
Depreciation of Delivery Equipment
Property Taxes, Selling
Payroll Taxes, Selling
Office Salaries
Officers' Salaries
Office Supplies Used
Bad Debts
Telephone and Telegraph Expense
Property Insurance, Office
Property Taxes, Office
Payroll Taxes, Office
Depreciation of Office Equipment
Social Security Taxes
Bad Debts Recovered
Purchase Discounts
Interest Expense
Profit and Loss Summary

The following were the balances of ledger accounts on January 1, 19xx:

Cash	$12,260.10
Accounts Receivable	7,826.15
Reserve for Doubtful Accounts	348.10
Inventories	
Finished Goods, Coveralls	4,213.20
Finished Goods, Jackets..	1,818.20
Goods in Process	3,216.40
Raw Materials	3,694.20
Factory Supplies	1,234.50
Sales Supplies	126.10
Office Supplies	95.35
Prepaid Insurance	216.15
Land	10,000.00
Buildings	20,000.00
Reserve for Depreciation of Buildings	5,346.80
Machinery and Equipment	8,500.00
Reserve for Depreciation of Machinery and Equipment	3,256.80
Tools	714.20
Office Equipment	4,550.00
Reserve for Depreciation of Office Equipment	1,115.90
Delivery Equipment	2,800.00
Reserve for Depreciation of Delivery Equipment	895.40
Accounts Payable	1,912.95
Mortgage Payable, Maturity, Oct. 1, 1960	10,000.00
Accrued Payroll	1,505.79
Accrued Interest on Mortgage	150.00
Old Age Pension Taxes Payable	220.00
Unemployment Taxes Payable, State	1,198.80
Unemployment Taxes Payable, Federal	133.20
R. W. Brinton, Proprietorship	55,180.81

The accounts payable were:

Western Supply Co.	$ 546.50
Martin Wholesale Co.	625.10
Southern Textile Co.	265.70
Better Products Co.	60.40
Belden Thread Co.	205.10
Textile Supply Co.	210.15
	$1,912.95

The following books are to be used:

A sales journal with the following columns, Accounts Receivable, Sales of Coveralls, Sales of Jackets.

A cash receipts journal with the following columns, General, Accounts Receivable, Cash, and Deposits.

A cash disbursements journal with the following columns, Voucher Number, Check Number, Vouchers Payable, Purchase Discounts, and Cash.

A general journal.

A voucher register with the following amount columns, Vouchers Payable, Old Age Pension Taxes Payable, Raw Materials, Factory Supplies, Sales Supplies, Direct Labor, Indirect Labor, Supervision, Sales Salaries, Delivery Salaries, Office Salaries, and Sundries.

A general ledger, 13 sheets, 3 accounts to a page.

The following adjusting entry had been made on December 31, to record the accrued payroll:

Direct Labor	$840.00	
Supervision	109.00	
Indirect Labor	118.00	
Office Salaries	135.00	
Sales Salaries	115.00	
Delivery Salaries	109.00	
Officers' Salaries	95.00	
Accrued Payroll		$1,505.79
Old Age Pension Taxes Payable		15.21
To record accrued payroll, Dec. 31		

The mortgage interest of 6 per cent per year is payable on April 1 and October 1.

The individual accounts receivable are kept by the accounts receivable ledger bookkeeper.

No discounts are granted but 2 per cent is deducted from all payments in full for raw materials, made within the discount period.

All purchases and sales are on credit unless otherwise stated.

All payments are made by check except the few from petty cash.

The indirect manufacturing costs are allocated to jobs when the goods are finished, and to goods in process at the end of the accounting period; the rate is 80 per cent of the direct labor cost.

On the cost sheets for the goods in process, the total of which is $3,216.40, the following costs were recorded on December 31: raw materials $1,236.4υ, direct labor $1,100.00, and indirect manufacturing costs of $880.00. Make a journal entry to debit the Indirect Manufacturing Costs account $880 and to credit that amount to the Goods in Process account.

You are required to change to a voucher system, making out vouchers numbered 1 to 6, respectively, for the trade-creditors' accounts previously listed.

The following are the transactions for January 19xx:

Jan. 2 You are to record the voucher and check for the payroll for the period ending January 2, which was as follows [deduct old age pension taxes]:

Direct Labor	*Indirect Labor*	*Supervision*	*Sales Salaries*	*Office Salaries*	*Delivery Salaries*	*Officers' Salaries*
$980	$160	$130	$145	$170	$130	$110

Fire insurance was purchased from the Northwest Insurance Co. for $346 cash.
The labor cost of $140 recorded on the workers' time cards for Jan. 1–2, is to be debited to Goods in Process and credited to Direct Labor.

4 Enter vouchers for the following invoices for the purchase of raw materials:

Better Products Co., $250.00	Martin Wholesale, $280.60
Southern Textile Co., 340.75	Textile Supply Co., 100.70

5 Sales supplies were purchased on credit from Standard Supply Co. for $260.00, and office supplies were purchased from Trenton Bros. for $128 cash.

6 Delivery supplies were purchased from Stewart Oil Co. for $250 on credit. A petty cash fund of $125 was established. Cash of $2,546.85 was collected on accounts re-

ceivable; this amount was deposited. Factory supplies were purchased on credit from Western Furniture Co. for $83.10.

Jan. 8 The following vouchers were paid less the discount:

Voucher No. 4, Better Products Co.
2, Martin Wholesale Co.
1, Western Supply Co.
6, Textile Supply Co.

A partial payment of $105.10 was made to Belden Thread Co. on voucher No. 5 [no discount taken].
Sales supplies were purchased on credit from General Carton Co., $76.00.

9 Defective materials, recorded at $100 by voucher No. 3, were returned to Southern Textile Co.
The J. E. Jones account receivable for $76.20 was written off as uncollectible.
The sales for the first week were:

Cash sales, coveralls $340.75, jackets $75.50, total $416.25.
Credit sales, coveralls $1,540.00, jackets $630.40, total $2,170.40.

Paid Southern Textile Co. the balance of voucher No. 3 less discount.
The costs of goods sold during the first week of January were obtained from a summary submitted by a clerk who kept the finished goods records, and were:

Coveralls,	$1,375.80
Jackets,	504.80

From the summary of the cost sheets for orders finished during the first week of January, the following data were taken:

Coveralls		*Jackets*	
Raw materials,	$675.10	Raw materials,	$300.00
Direct labor,	550.60	Direct labor,	230.40

(In making your entries do not overlook the indirect manufacturing costs that are to be allocated to the finished goods.)
From the summary of the raw materials used during the first week of January you obtain the total of the raw materials used, which was $725.60.

11 Enter vouchers for the following purchases of raw materials:

Better Products Co.,	$105.20	Western Supply Co.,	$100.60
Southern Textile Co.,	710.15	Textile Supply Co.,	91.90
Martin Wholesale Co.,	896.40	Belden Thread Co.,	83.70

12 Enter voucher to *City Tribune* for $195.90 for January advertising.
Enter vouchers and checks for old age pension taxes payable, $189.58, unemployment taxes payable to the state, $1,157.73, and unemployment taxes payable to the collector of internal revenue $128.64; these payments were for the taxes required by law to be paid by January 31 on payments to employees during the preceding year.

13 Cash of $3,528.80 was collected on accounts receivable; a deposit of $3,945.05 was made. Factory supplies were purchased on credit from Newton Steel Products Co., $133.25.

14 The following sales returns are to be recorded: Coveralls, $48.90, cost $40.20; jackets, $29.10, cost $20.60.
A power machine was purchased for the factory from Winger Manufacturing Co. for $250 cash.
The voucher of January 12 to *City Tribune* was paid.
A partial payment of $150 was made to Better Products Co. on voucher of January 4.

Jan. 15 The balance of voucher No. 5 to Belden Thread Co. was paid; no discount was taken on this voucher.

Sales supplies were purchased on credit from United Cord Co., $26.30.

16 The total of the raw materials used, as obtained from the summary of the raw materials requisitions for the second week, was $656.50.

From the summary of the cost sheets for orders finished during the second week of January, the following data were taken:

Coveralls		*Jackets*	
Raw materials,	$456.40	Raw materials,	$246.20
Direct labor,	405.20	Direct labor,	230.80

The following were the sales for the second week:

Cash sales, coveralls $213.45, jackets $98.60, total $312.05.

Credit sales, coveralls, $1,426.10, jackets $530.25, total $1,956.35.

The cost of the coveralls sold was $1,216.00, and of jackets $442.10.

The following is a summary of the payroll for the period ended January 16.

Direct Labor	*Indirect Labor*	*Supervision*	*Sales Salaries*	*Office Salaries*	*Delivery Salaries*	*Officers' Salaries*
$860	$250	$130	$145	$170	$130	$110

The total of the direct labor entered on the cost sheets, from the workers' time cards, was $860.

18 Uncollectible accounts receivable totaling $144.50 were written off. Cash of $88.65 was collected from customers whose accounts had been written off as uncollectible.

19 Raw materials were returned to Southern Textile Co., $140.75; these materials were recorded by the entry of voucher of January 4; the balance of this voucher was paid. A check was written to Martin Wholesale Co. in payment of voucher of Jan. 4.

20 A partial payment of $50.75 was made on Textile Supply Co voucher of Jan. 4. A check was written to Stewart Oil Co. in payment of voucher of Jan. 6. Sales supplies were purchased for $26.40 cash from Winter Printing Co. Factory supplies were purchased on credit from United Oil Co., $63.20.

21 A noninterest-bearing note was issued to Better Products Co. for the balance due on voucher of Jan. 4.

Entered the following vouchers for purchases of raw materials:

Better Products Co.,	$285.90	Western Supply Co.,	$264.40
Martin Wholesale Co.,	200.30	Textile Supply Co.,	725.10
Southern Textile Co.,	985.30	Belden Thread Co.,	28.40

Checks were written and entered in payment of the following vouchers:

Better Products Co.,	$105.20,	voucher of Jan. 11, less discount
Textile Supply Co.,	50.00,	voucher of Jan. 4
Belden Thread Co.,	83.70,	voucher of Jan. 11, less discount

23 Entered voucher for $95 to Resco Roofing Co. for repairs to factory roof.

Cash of $1,567.55 was collected on accounts receivable; a deposit of $1,968.25 was made.

A note payable for $896.40 was issued to Martin Supply Co. for voucher of Jan. 11.

Raw materials were returned to Southern Textile Co., $95.15; these materials had been recorded by voucher of Jan. 11 for $710.15.

A payment of $50 was made to Western Supply Co. on voucher of January 11 for $100.60.

25 The following were the sales for the third week of January:

Cash sales, coveralls $262.50, jackets $156.90, total $419.40.

Credit sales, coveralls, $1,700.25, jackets $690.10, total $2,390.35.

The costs of goods sold were: coveralls, $1,410.65, jackets $615.80.
The total of the requisitions for materials used during the third week was $703.20.
The totals from the summary of the cost sheets for goods finished during the third week were:

Coveralls		*Jackets*	
Raw materials,	$605.20	Raw materials,	$280.50
Direct labor,	510.15	Direct labor,	220.10

Jan. 26 The following vouchers were entered: Belden Thread Co., $48.50; Universal Truck Repair Co., $98.40, for the cost of replacing the crankshaft on the truck; Breen Bros., for an addition to the building, $1,200.

27 Cash of $2,465.20 was collected on accounts receivable. Checks were written for the following vouchers less the discounts:

Better Products Co., $285.90, voucher of January 21.
Martin Supply Co., 200.30, voucher of January 21.

Issued to Textile Supply Co. a 90-day note payable for voucher of January 21 for $725.10.
Paid Resco Roofing Co. voucher of January 23.
Paid the note payable issued on January 21 to Better Products Co.
Factory supplies were purchased on credit from Brace & Co., $66.50.

30 The following were the sales from January 22 to January 30 [January 31 was Sunday]:

Cash Sales, coveralls $315.65, jackets $165.10, total $480.75.
Credit sales, coveralls $1,450.70, jackets $570.40, total $2,021.10.
The costs of the goods sold were: coveralls $1,265.80, jackets $528.30.

The following is a summary of the payroll for the period ended January 30:

Direct Labor	*Indirect Labor*	*Supervision*	*Sales Salaries*	*Office Salaries*	*Delivery Salaries*	*Officers' Salaries*
$915	$280	$130	$145	$170	$130	$110

The direct labor distributed from the time cards to the cost sheets for the period January 22 to 30 totaled $915.
A check was mailed to Universal Truck Repairs Co. for voucher of January 26.
The total of the summary of the cost sheets for goods finished from January 24 to the end of the month were:

Coveralls		*Jackets*	
Raw materials,	$550.75	Raw materials,	$250.60
Direct labor,	465.80	Direct labor,	198.70

A voucher for $123.40 was made out to Western Power Co. for electric bill [a factory cost], and a voucher and check were made out to replenish the petty cash fund for postage of $24.50 and sundry office supplies of $14.50. A deposit of $3,365.35 was made.
The total of the summary of the raw materials requisitions for the period January 22 to 30 was $805.40.
The indirect costs to be allocated to the goods in process are estimated to be $162.60.
A voucher for $56.50 was made out to Central Utilities for the telephone bill.

The adjusting entries are to be made from the following information:

Inventories
Tools, $550.10
Office supplies, $175.50
Sales supplies, $373.25
Delivery supplies, $146.00
Factory supplies, $1,326.80

Annual depreciation rates
  Buildings, 5 per cent of cost
  Machinery and equipment, 10 per cent of cost
  Delivery equipment, 20 per cent
  Office equipment, 10 per cent.
  Computations to be based on the balances of accounts on January 31.

Bad debts, 1 per cent of sales.

Property taxes, $115, accrued, to be distributed as follows, 60 per cent to the factory, 20 per cent to the office, and 20 per cent to the sales department.

Insurance expired, 1/6 of the balance of the Prepaid Insurance account is to be distributed in the same ratio as property taxes.

The balance of the Social Security Taxes account is distributed to Payroll Taxes, Factory; Payroll Taxes, Office; and Payroll Taxes, Selling.

Workmen's compensation taxes are to be accrued at the following rates, 1 per cent of the factory labor cost, 0.75 per cent of the sales and delivery salaries for the month, and 0.5 per cent of the office salaries for the month [none on officers' salaries]. Debit the payroll taxes accounts.

No salaries or wages are accrued.

Instructions: After the entries have been made for the month, take a trial balance, make the adjusting entries and post them, then take a trial balance and from this make the closing entries. Make up a balance sheet and statement of profit and loss.

The following are the bank reconciliation on December 31 and the bank statement on January 31. You are required to reconcile the bank account on January 31.

The Brinton Manufacturing Co.

Bank Reconciliation
December 31, 19xx

Ledger balance of Cash account		$12,260.10
Less		
Checks outstanding,	$117.25	
	164.40	
	235.60	
	125.35	642.60
Bank balance		$12,902.70

National Trade Bank

Account of: Brinton Manufacturing Co.

Date	Debits			Deposits	Balance
Jan. 1					$12,902.70
x	117.25	164.40			xxxx
x	235.60	1,806.75	128.00		xxxx
x	125.00			2,546.85	xxxx
x				3,945.05	xxxx
x	189.58	105.10			xxxx
xx	195.90				xxxx
xx	100.00	346.00	1,157.73		xxxx
xx	200.00	128.64		1,968.25	xxxx
xx	50.70	1,777.05	250.00		xxxx
xx	26.40	50.00	50.00		xxxx
xx	95.00	100.00	1,861.20		xxxx
30	39.00			3,365.35	$15,428.90

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